BULLETIN

School of Medicine

University of Maryland

Volume 51, 1966

BULLETIN *School of Medicine*
University of Maryland

VOLUME 51 JANUARY, 1966 NUMBER 1

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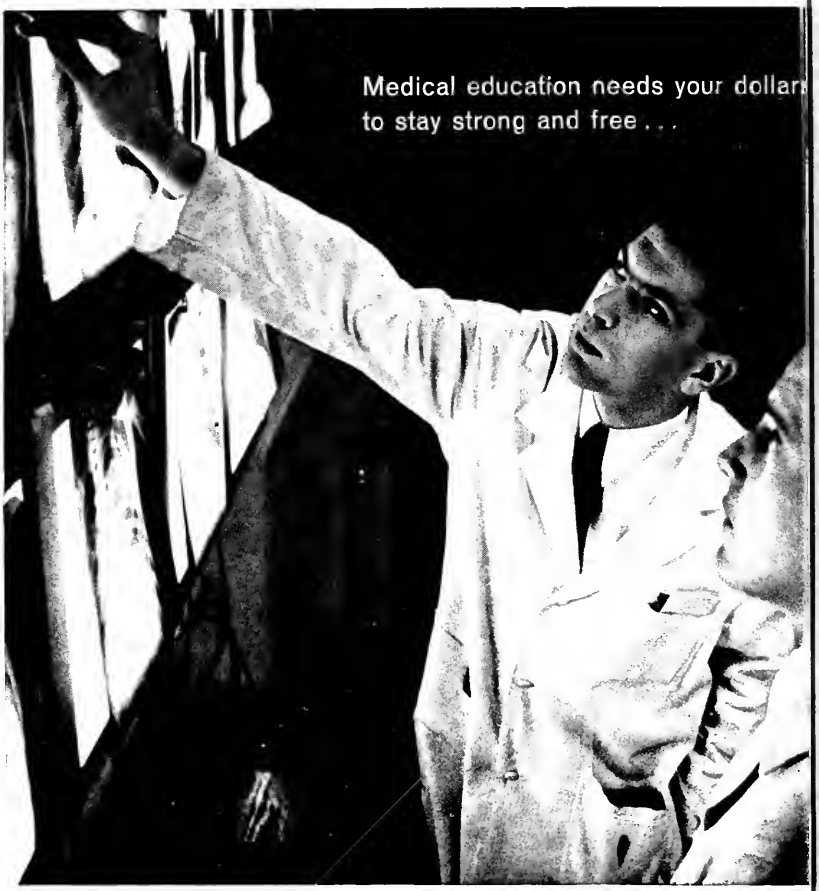

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VOLUME 51 JANUARY, 1966 NUMBER 1

The Dialung Artificial Kidney--A Compact, Pumpless, Low Cost, Hand Portable, Clinical Hemodialysis System

WILLIAM G. ESMOND, M.D., MANFRED STRAUCH, M.D., HOWARD CLARK, ALBERT LEWITINN, SARAH MOORE

A NUMBER of successful artificial kidney systems[1] have been produced and are being employed clinically.[2, 3, 4, 5, 6] Some systems require pumps[2] for both blood and dialysis solution and others have been designed for low flow resistance and can be used without pumps.[4, 5, 6] All systems designed to date are expensive to purchase and to operate. Since the convincing demonstrations of Dr. Belding Scribner that maintainance of life in chronic renal failure is possible with hemodialysis carried out two or three times a week,[7, 8, 9, 10] the fundamental problem to be solved has been the tremendous cost required to maintain a patient in reasonably good health by this technique. This cost which was initially approximately $20,000 per patient per year has been progressively lowered until at the present time is about $5,000 to $7,500 per year per patient. Fundamentally, the primary engineering problem to be solved in hemodialysis is to design a system which will produce the greatest mass transfer of waste products from a patient's blood to the dialysis bath for the least monetary expense including all factors. The optimum artificial kidney system designed for this purpose will have the following design parameters:[11]

1. Low flow resistance so that a maximum of available blood flow may occur through the device by blood pressure alone.

2. Low priming volume which is as constant as possible to avoid the need for priming blood. All but a few drops of blood should be recoverable from the device at the termination of hemodialysis.

3. Ultra filtration should be possible if desired.

4. The flow distribution of blood and rinsing solution should be equalized so that all areas of the dialysis membrane work efficiently and no shunting should occur.

5. Mass transfer should be maximized by controlling fluid film boundary layers and by using a sufficient surface area of the most permeable membrane attainable.

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Supported principally by N.I.H. grant HE-02618-01-09 and in part by a grant from the Surgeon General, U. S. Army DA 49-193-MD-2229.

6. The device should possess smooth non-toxic surfaces and be biochemically compatible with blood. Red cell hemolysis, and white cell and platelet destruction should be as low as possible.

7. The device should be constructed of low cost parts and be disposable or be easily recleaned and autoclaved.

8. Various sizes of the device should be available for infant, pediatric and adult use.

9. The device should be steam autoclavable or be sterilizable with ethylene oxide gas.

10. The device should be safe in operation and be leak free in use after suitable assembly tests.

11. The auxiliary apparatus used with the dialyzer should be simple, inexpensive and easily maintained.

12. The system should be so simple and safe that it may be monitored by the patient himself or by a member of the family.

The optimization of any design is usually a continuing process and often lags due to the non-availability of essential materials only to surge ahead after an advance in technology occurs in another field making new materials or techniques available. The Dialung artificial kidney (Figure 1) was originally designed by the author in 1956 as a multiple, parallel path, pumpless, autoclavable hemodialyzer. Initial models made in 1957 with Nylon injection molded plates (Figure 2)

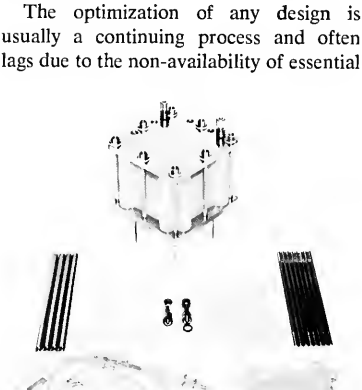

Fig. 1. Standard one square meter 65 plate Dialung. Administration sets and prepunched Bemberg PT 150 cuprophane membranes are shown in the foreground. The 4 long alignment pins and 8 long clamping studs are used in the rare event that a 2 square meter dialyzer may be required for a difficulty dializable toxin.

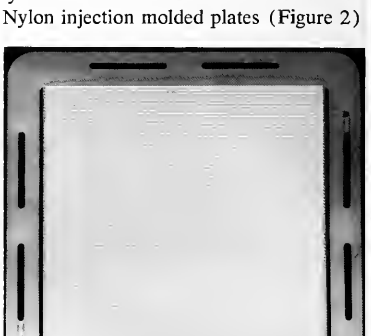

Fig. 2. Original design Dialung plate. Eight manifold channels are provided to allow both cross flow and counter current flow stacking. Only 4 manifolds are used at 1 time. The 2 dual fluid admittance and discharge ports, clear internal distribution channels and the 84 dialysis grid grooves on each side of the 12.5 x 12.5 mm. central area for dialysis are shown. The original material was Nylon and was later changed to polypropylene.

functioned well but were difficult to sterilize by autoclaving without excessive distortion. The Nylon plates could be used only one time. The advent of autoclavable polypropylene plastic and redesign of the molded plate (Figure 3) to confer greater dimensional stability resulted in a multi-parallel plate hemodialyzer (Dialung) with efficient function meeting the foregoing design parameters.[12]

The basic inexpensive Dialung plate is precision injection molded in polypropylene plastic and possesses a glossy smooth surface completely compatible with blood. The plates measure 1.6 mm. thick and are 203 mm. square. Eight circular fluid

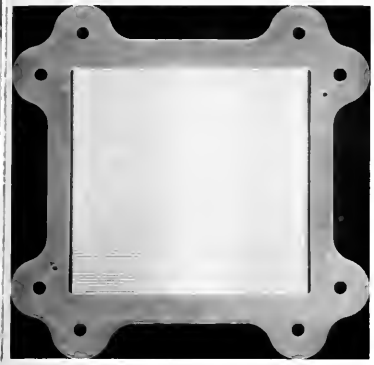

Fig. 3. The redesigned Dialung plate is pictured. The slot type manifolds have been eliminated and appear as circular holes in 8 "ears" on the corners of the plate. This plate molded in polypropylene has been found to be dimensionally stable in normal use using steam autoclave sterilization.

manifolds are present on the edges of the plate. One manifold is used to introduce (heparinized) blood and one to drain dialyzed blood. Blood descends in the entrance manifold and passes into each blood plate through two pairs of small metering ports 0.8 mm. square and 6 mm. in length. The blood then flows in a clear distribution groove the length of the plate and crosses both sides of the central grid of the plates in 84 grooves to a second collecting channel and then flows to a second dual pair of metering ports which allows the blood to leave the plate into a discharge manifold where it flows out of the bottom of the kidney. In use, the blood plates are alternated with Bemberg PT 150 cuprophane cellu-

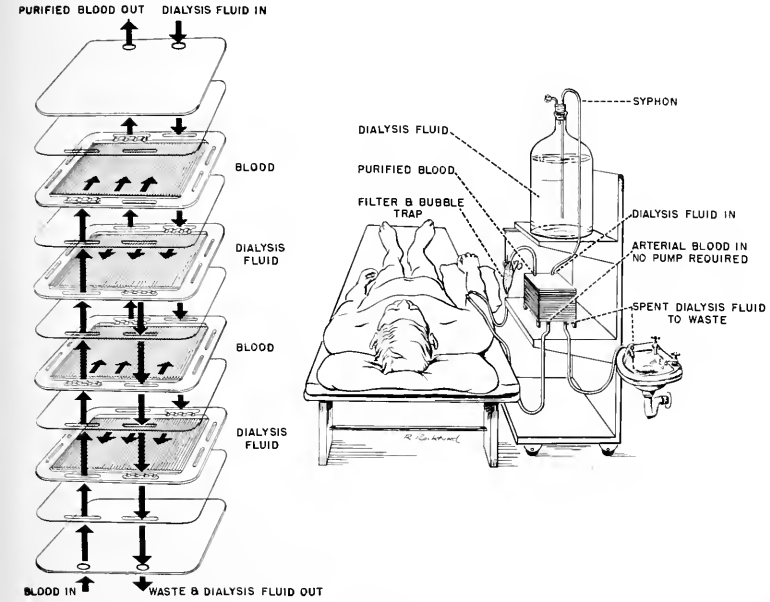

Fig. 4. Counter current Dialung stacking pattern and pumpless simple arrangement for hemodialysis.

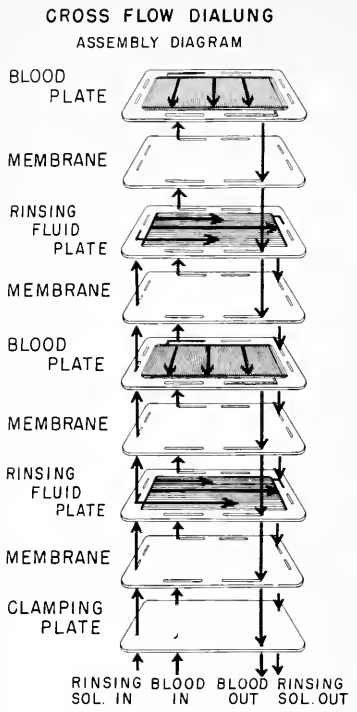

Fig. 5. Cross flow Dialung stacking pattern.

lose membranes and dialysis solution rinsing fluid plates in either a counter current flow pattern (Figure 4) or in a cross flow path pattern (Figure 5). The plates are clamped securely between 1.4 x 20.5 x 20.5 cm. electropolished stainless steel clamping plates which provide an effective sealing pressure by means of eight stainless steel studs, washers, and nuts. The device is leakproof and will withstand a pressure test of 2,600 mm. Hg. with duPont PD 250 cellophane membranes and 1,000 mm. Hg. with Bemberg PT 150 cuprophane membranes. The priming volume for a one square meter surface area Dialung having 65 plates and 66 membranes is 200 ml. for the blood compartment and 200 ml. for the dialysis fluid compartment so that no blood need be used in priming. At the termination of hemodialysis practically all blood can be drained back to the patient. Blood flow resistance is quite low and in a standard one square meter dialyzer, a blood pressure of 70 mm. Hg. at the inlet of the device will cause a blood flow of 200 ml. per minute. Blood flows without a pump, in clinical practice, have ranged from 90 ml./minute to 500 ml. per minute. Hemolysis has not been detectable in clinical use. An ultra filtrate of 100 ml./hour can be obtained with one square meter of Bemberg PT 150 cuprophane membranes for each 100 mm. Hg. pressure difference. Ultra filtration can be greatly enhanced by raising glucose concentration in the dialysis bath to 1,000-1,200 mg.%

The modular construction employed in the Dialung allows the clinician to assemble a small dialyzer for infants (0.24 M^2) or larger dialyzers for children (0.48

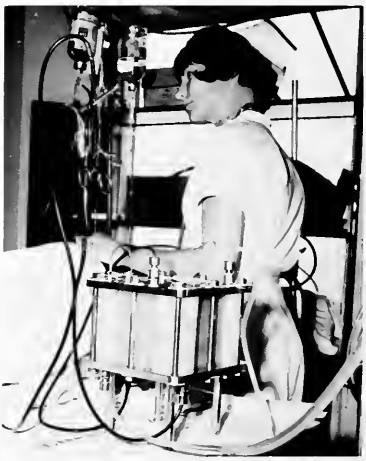

Fig. 6. One square meter surface area Dialung shown in clinical use.

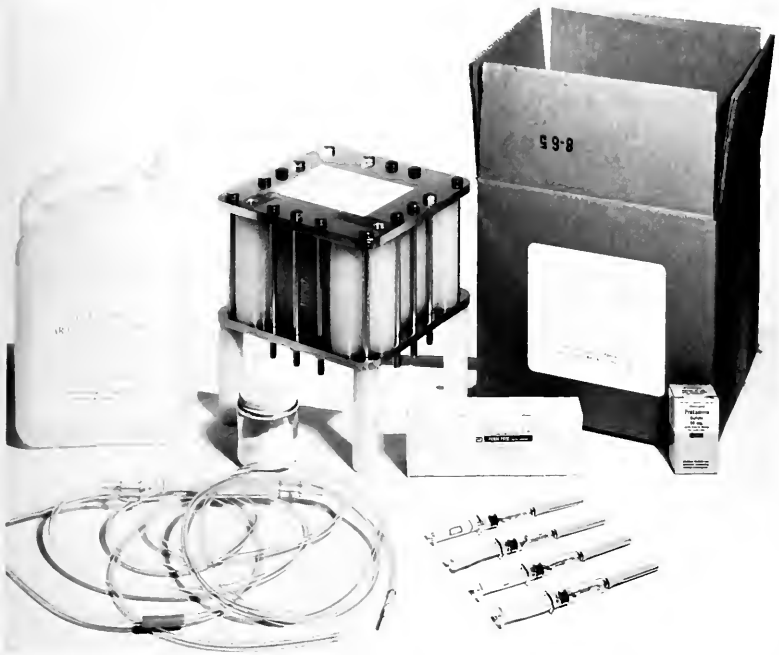

Fig. 7. Lightweight portable version of the Dialung developed as a simplified, pressembled, one use, disposable dialyzer with potential applications in home hemodialysis and in military hemodialysis as well as in hospital practice. Light weight, low cost, injection molded glass filled rigid Lexan clamping plates will soon replace the stainless steel plates shown. Tube fittings are low cost, press in, injection molded Nylon which decrease cost and further simplify use. A one gallon hemodialysis fluid concentrate is shown which can be quickly diluted with 35 parts of water to make up a 128 liter hemodialysis bath. All components shown including a collapsible 150 liter canvas dialysis tank (not shown) can be packed in a small suitcase weighing less than 50 pounds.

M^2) or adults (1 M^2) (Figure 6). A lightweight, "disposable" model of the Dialung constructed for potential application in military medicine is shown in Figure 7. Molds for lightweight, glass filled Lexan clamping plates which will lower the weight and cost of the disposable version of the Dialung are now being constructed.

Flow distribution is optimized in the Dialung by a member of procedures. Blood is caused to enter the top of the unit and discharges from the opposite side of the bottom of the unit. In addition, the blood (or fluid) ports of each plate are arranged on opposite corners to equalize resistance. In general, it has been found that cross flow stacking results in an exact fixed even resistance geometry whereas the counter current stacking arrangement with parallel plates[11] allows some variable "nesting" of the grids to occur in each other resulting in some uneven flow patterns. We have advised all users of the present model Dialung to employ cross flow stacking. Recent mathematical studies have indicated no real theoretical advantage in counter current flow as was previously believed.[11]

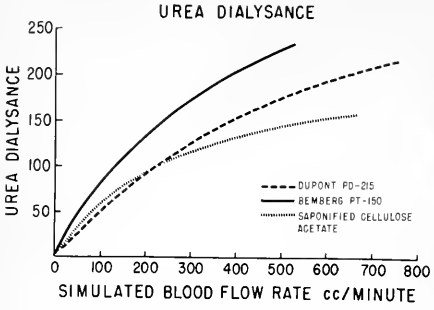

Fig. 8. In vitro urea dialysance curves of a 2 square meter Dialung. Chemically modified cellulose acetate dialysis membranes offer great promise of producing more permeable kidney membranes and are the subject of additional research.

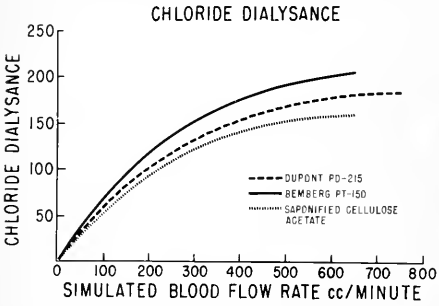

Fig. 10. In vitro chloride dialysance curves for a two square meter Dialung.

In vitro studies indicate excellent clearance of urea, creainine, and chlorides (Figures 8, 9, 10). These figures indicate performance using the highest bath flow rates attainable. Clinical usage results in lower bath flow rates by simple syphon from an elevated plastic tank in a one pass pumpless flow to drain[11] of from 500 to 1,500 ml./min. and dialysance figures are slightly reduced by this lower bath flow rate. Data obtained in clinical dialyses for a one square meter Dialung have indicated a clearance for urea of from 60-75 ml./min. and from 35-45 ml. of creatinine per minute. These figures are limited of course by the

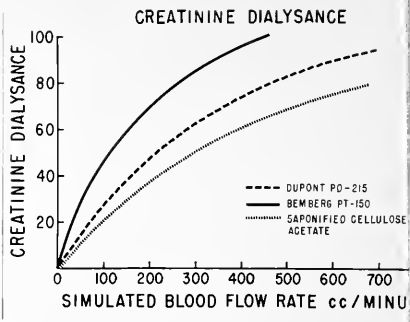

Fig. 9. In vitro creatinine dialysance curves for a 2 square meter Dialung.

volume of blood obtainable from the small forearm arteries of patients in a pumpless system. The equipment used to mix and heat dialysis solution is shown in Figure 11.

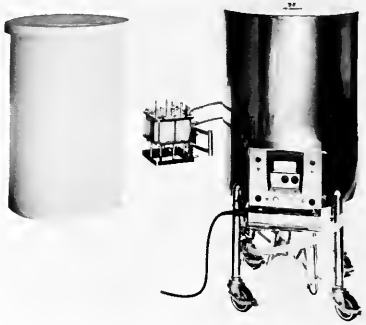

Fig. 11. 400 liter stainless steel dialysis solution concentrate preparation tank for the Dialung. The inexpensive 200 liter polyethylene plastic tank may be used with prepared dialysis solution concentrate and city water to provide an inexpensive supply of dialysis rinsing solution in a pumpless one pass flow through the Dialung to the drain.

In order to obtain the optimum membrane for the hemodialyzer, a rotating cell was designed in which 50 ml. of saline and 50 ml. of water can be placed on each side of each vertically mounted test membrane (Figure 12). The cell was then rotated at 180 r.p.m. effectively scouring the membrane and practically eliminating the usual stagnant fluid film

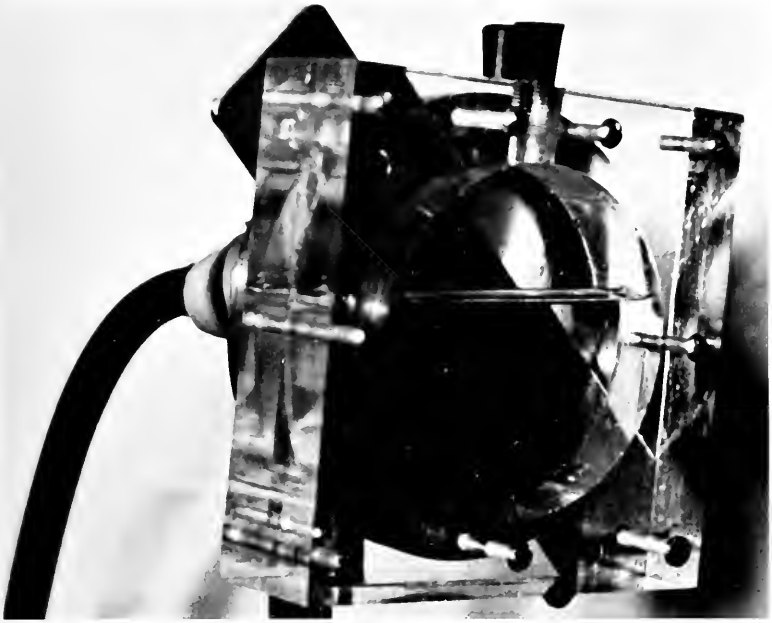

Fig. 12. Dual chamber rotating dialysis test cell with vertical membrane support.

boundary at the interface. Periodic chloride analyses in the Buchler-Cotlove chloridimeter then allowed construction of a curve the slope of which indicates the absolute permeability of the membrane to chloride (Figure 13). Since chloride and urea permeabilities in cellulose films are quite close, the relative permeabilities to chloride were then used to rate the membranes. The test results obtained in this original technique are shown in Figure 14. Bemberg PT 150 cuprophane 0.6 mil. thick was found superior to other available membranes and is the membrane of choice in current clinical practice.

Clinical applications of the Dialung have included a patient with Doriden poisoning successfully treated in a 16

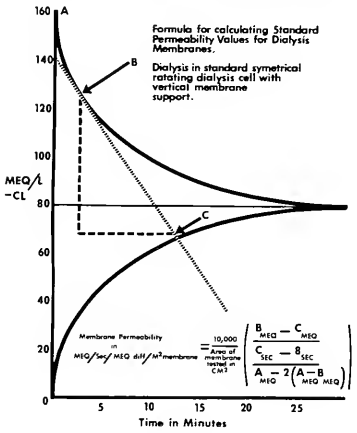

Fig. 13. Typical curves obtained from chloride analyses of a solution in rotating dialysis cell. Original formula gives precise quantities of chloride passing through a unit area of membrane in 1 second for a driving concentration difference of one milli equivalent/L of chloride ion.

MEMBRANE PERMEABILITY STUDIES

MEMBRANE	Test Cell Perm Na Clx10^{-3}	Perm PSPX10^{-3}
½-A Unsoftened*	42	5.0
½-B 15% S-1*	45	8
½-C 20% S-1*	46	10
½-G 20% S-12A*	47	8
¾ Unsoftened*	32	6.2
¾-B 15% S-1*	38	7.3
¾-E 20% 2-2A*	32	6.2
Bemberg .0006"	94	15
Dupont .002"	57x10^{-3}	8
Dupont .002" (No Rotation)	6x10^{-3}	

Membrane Area = 62 cm^2 in Rotating Test Call

Test Cell Permeability = $\frac{\text{meq/meq} \cdot \text{Second} \cdot \text{M}^2}{}$

To Convert to Absolute Permeability = $\frac{\text{Meq} \cdot \text{Liters}}{\text{Meq} \cdot \text{Second} \cdot \text{M}^2}$ Mult. by .0787

Fig. 14

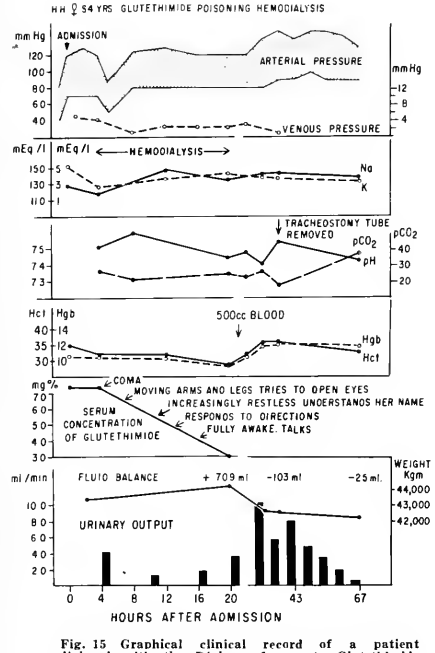

Fig. 15 Graphical clinical record of a patient dialyzed with the Dialung for acute Glutethimide (Doriden) poisoning after swallowing 24 half gram tablets of Doriden and several "Nods" sleeping capsules.

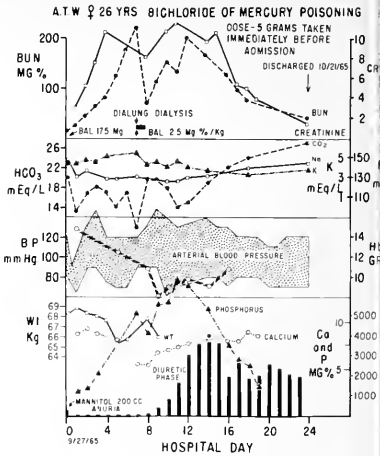

Fig. 16. Graphical clinical record of a young patient who sustained acute renal failure after ingestion of bichloride of mercury. Dialung dialysis on the seventh hospital day resulted in marked biochemical as well as clinical improvement. Spontaneous diuresis beginning on the 9th hospital day eliminated the need for further dialysis. Recovery was complete.

hour hemodialysis[13] (Figure 15), a patient with renal failure secondary to acute bichloride of mercury poisoning successfully treated in a single 20 hour hemodialysis after which renal function gradually returned, a patient with bromide poisoning successfully treated in three 6 hour dialyses and number of patients with renal failure due to shock, methanol intoxication and crushing injuries who were also successfully treated.

Summary

The design parameters for an optimized artificial kidney system have been presented together with a new compact, pumpless, clinical hemodialyzer (Dialung) that meets desired optimization parameters in clinical practice. This dialyzer can be employed to further lower the cost of, and to increase the safety and efficiency of hemodialysis.

Addendum

Since the preparation of this paper 5 additional patients have been accepted for long term twice a week hemodialysis. In the case of one 37-year-old man, who was a computer operator for the Social Security Administration, and whose wife is a nurse, the entire simple hemodialysis procedure is now being carried on at home without physician intervention. Cost analysis figures indicate that the Dialung system for home chronic twice a week hemodialysis can be operated for a total cost for equipment and supplies for one year for from between $1500 and $1800 a year.

This simplified, low cost system opens a new therapeutic horizon to the 100,000 patients succumbing to renal disease in the United States each year. The Public Health Services estimates that from 10,000 to 20,000 of the patients can be maintained in reasonably good health by twice a week hemodialysis. Only 350 patients are now being treated twice a week by other hemodialysis techniques because of the high cost of operation of other artificial kidneys. The Dialung is simple enough to be used by a housewife and can obviously be applied by every physician in general practice.

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Chromosomal Mosaicism in Gonadal Dysgenesis

Report of a Case

HANS-DIETER TAUBERT, M.D., ERICA F. MOSZKOWSKI, M.D.*

THE ENTITY of primary amenorrhea, short stature, webbing of the neck, and cubitus valgus, has become known as Turner's syndrome. It is often associated with multiple congenital anomalies, particularly those of the cardiovascular system. The gamut of this syndrome may range from the classical Turner's syndrome with severe defects to the so-called pure gonadal dysgenesis,[14] where the pathology is limited to the gonads. The common pathognomonic denominator is the absence of germ cells. The ovaries consist merely of streaks of stromal tissue with no ova being present. Ford[3] recognized in 1959 that this syndrome is characterized by the absence of one X chromosome, except for rare cases.[14] Of particular theoretical and practical interest are those cases where 2 stem-lines of cells are present. One contains the normal modal number of chromosomes, while the other is hypoploid due to the lack of one X chromosome. Chromosomal mosaicism with XO/XX configuration of the sex chromosomes is next to XO the most common finding in gonadal dysgenesis. Miller was recently able to review over 25 reported cases.[1, 3, 7, 8, 10, 11, 12, 17, 18] It is the purpose of this paper to report and discuss another case of gonadal dysgenesis with chromosomal mosaicism.

Case Report

C. J., U. H. #29-17-32. This 15-year-old Negro girl was first seen in the Gynecologic Endocrine Clinic on June 30, 1964. Her chief complaint was stunted growth, primary amenorrhea, and minimal development of the secondary sex characteristics. Her height was 142.5 cm. She weighed 107 lbs.; the span was 150 cm. On general inspection the patient had a short neck with a trace of webbing. The chest was shield-like and the nipples wide-spaced, small and flat. There was no areolar pigmentation. Auxiliary and pubic hair was sparse (Table 1, Fig. 1). Her hands were remarkably long, with spidery fingers, and hyperextensible joints. The palms were spoon-shaped and could not be completely flattened. The fourth toe on the right foot was short. No cardiac anomalies were found. The patient had poor vision in one eye due to strabismus. Color vision was normal.

Examination with the patient under anesthesia disclosed a small cervix, atrophic labia, and an intact hymen. There was no stimulation of the vaginal mucosa. Adnexal structures could not be palpated.

Table 1—Malformations and Laboratory Data

A. EXTERNAL MALFORMATIONS	
Webbing of the neck	trace
Low implantation of the hair	present
Short fourth metatarsal bone	present
Epicanthic folds	present
Cubitus valgus	present
Arachnodactyly	present
Spoon-shaped palms	present
Shield-like chest with wide spaced nipples	present
Pigmented naevi	absent
B. RADIOLOGIC MALFORMATIONS	
Sella turcica	normal
Bone age	normal
Osteoporosis	absent
C. FAMILY	
Number in sibship	⅓
Age of mother at birth	29
Age of father at birth	33
Malformations in family	absent
Consanguinity in family	absent
X-ray, viral disease, etc. around conception	absent
D. LABORATORY DATA	
Vaginal cytology	no estrogen effect
Sex-chromatin, rt. buccal cavity	24% positive
Sex-chromatin, lt. buccal cavity	18% positive
"Drumsticks"	53/1000
Sex-chromosome configuration	XO/XX
Chromosome number	44-0
Total urinary gonadotrophins	45-34 (51.4%)
17-ketosteroid excretion	46-32 (48.6%)
Protein-bound iodine	47-0
Xg^a Proposita	more than 50 mu/24 hrs.
Mother	2 mg./24 hrs.
Sister	7.7 mcg%
Dermatoglyphics	Xg^a (+)
	Xg^a (+)
	Xg^a (+) compatible

* From the University of Maryland School of Medicine, Department of Obstetrics and Gynecology.

Fig. 1

Laboratory Data: On August 5, 1964, 26% of the buccal mucosal cells were positive for sex-chromatin. On March 2, 1965, a repeat examination of both the right and left buccal mucosa showed 24% chromatin-positive cells on the right including 6% very small ones. The smear on the left revealed the presence of Barr bodies in 18% of the cells with 4% being small ones. Fifty-three polymorphonuclear leukocytes per 1,000 were found to be positive for the presence of "drum sticks."

Vaginal cytology from June 30, 1964, did not show any evidence of estrogenic stimulation.

Chromosomal Analysis: White blood cells were cultured by a modification of the method of Moorhead.[13] Sixty-six cells were suitable for analysis. Thirty-two showed the normal modal number of 46 chromosomes. The remaining 34 cells lacked one of the large submetacentric chromosomes of group 6-12 (Denver Classification)[2] or C (Patau).[15] This was interpreted as mosaicism of the X-chromosomes with the following two stem-lines: 45 (XO)/46 (XX).

Gonadotrophin excretion: The 24-hour value for total urinary gonadotrophins exceeded 50 mouse-units (more than adult normal).

The 17-ketosteroids were 2 mg./24 hour urine.

X-ray studies: The sella turcica was normal. The bone age was compatible with 14.5 years. Osteoporosis was not evident.

Dermatolglyphics:[16] The axial triradius was in t' position. The adt-angle exceeded 50°. All digits with the exception of digits V sinister showed ulnar loops. The latter had a whirl. The total digital ridge count was 144; the ridge count was 144; the ridge count between triradius *a* and *b* was 58. For comparison the same data were obtained from her younger sister: Axial triradius t, adt-angle 45°, digital ridge count 132 (normal range); a-b ridge count 45 (normal); whirls on digitus I and II right and left, and digitus III on the right. The remaining finger had ulnar loops.

Comment

Lack of germ cells in the gonads and loss of one X-chromosome in early development are the notable features of this entity. It appears that segregation and migration of the primitive germ cells from the hind-gut to the germinal ridge depends upon the presence of 2 X-chromosomes.[7] Embryonal cells do not show many chromocenters prior to day 16-18 of development. After segregation of the primitive germ cells, however, one of them becomes genetically inactive and as such

the chromocenter or the Barr body.[6] Failure of the primitive germ cells to arrive at the germinal ridge seems to arrest the gonad at the stage of the primitive, indifferent medulla.[7] Any other cause which will prevent this migration will have the same result in gonadal development. This explains chromatin-positive cases of gonadal dysgenesis with normal 46/XX karyotype.

In a case as ours one has to assume that the germ cells descended from a stem-line with the karyotype 45/XO. Examination of more than one tissue could possibly have uncovered an even more complex system of multiple mosaicism. Differences in the percentages of chromatin-positive cells from either buccal mucosa have been observed.[6]

The observed difference of 18% and 24% respectively cannot be considered significant in this context.

Pre-zygotic maternal or paternal non-disjunction during the first or second meiotic division is thought to be the cause for aneuploid states such as gonadal dysgenesis, Klinefelter's syndrome, autosomal trisomies, *et cetera.* In contrast, chromosomal mosaics are believed to originate from faulty division of the zygote.[8 & 9] Mitiotic non-disjunction or loss of an X-chromosome due to anaphase lag have been postulated as possible mechanisms.

The maternal or paternal origin of the X-chromosome in such individual can be studied by investigating sex linked traits. Color blindness, glucose-6-phosphate-dehydrogenase deficiency, and Duchenne's atrophy were not applicable in the case presented. Determination of the Xg blood group can be most helpful in this aspect, since presence of the Xg^a (+) allele assures dominance of the trait.[4-9] Since all accessible members of the family were Xg^a (+), no further information could be gained in this aspect.

Mitotic non-disjunction at the first cleavage division would have resulted in an X/XXX embryo. The triple-X stem-line would be recognizable by virtue of the supernumerary chromosome. A number of buccal smear cells would contain 2 Barr bodies, representing 2 inactivated X-chromosomes. The most likely explanation is that an XX zygote lost one of the sex chromosomes during anaphase at the first cleavage division, resulting in equal proportions of XO/XX cells as observed. This cell type could also have originated in mitotic non-disjunction at the second cleavage division. However, one would have to assume that the zygote was originally XO, and the proportion between the 2 cell lines should not be even.

Dermatoglyphic examinations have been used successfully in characterizing various congenital anomalies. The configuration of the dermal ridges are laid down at a very early stage of development, around the third month.[16] The propositus showed some of the typical findings: t' position of the axial triradius, increased adt-angle, and an increased dermal ridge count.

Treatment

The patient was placed on estrogen-substitution therapy with the aim to induce development of the secondary sex characteristics, and hopefully to induce further growth. Figure 2 attests to the effectiveness of this regimen as to the former, e.g., after 6 months of 0.2 mg. of stilbestrol, q.d. No further growth occurred. Cyclic therapy will be instituted for induction of menstrual cycles as soon as the development of the genitalia is sufficient.

Summary

A 15-year-old-Negro girl presented with stunted growth, primary amenorrhea, and lacking development of the secondary

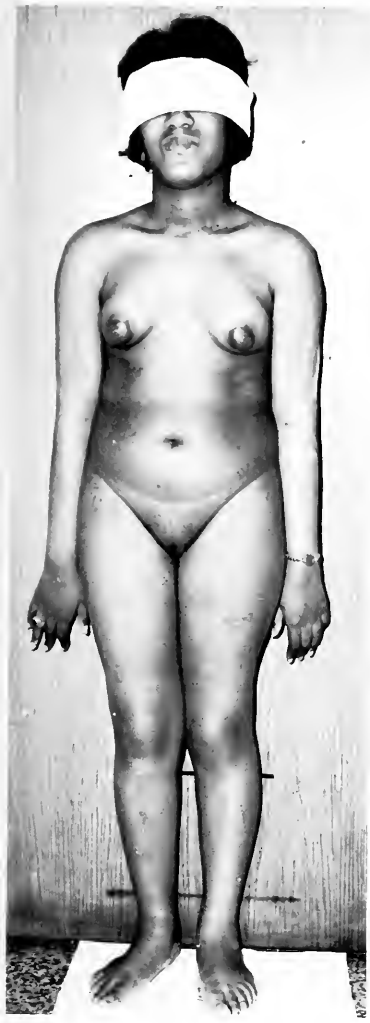

Fig. 2

sex characteristics. Chromosomal analysis confirmed the clinical impression of gonadal dysgenesis. The karyotype presented as a mosaic containing two cell lines: 45 (XO)/46 (XX). Estrogenic replacement therapy resulted in satisfactory development of the secondary sex characteristics. The origin of the chromosomal defect was discussed.

Acknowledgment

The help of Miss E. Jahn of the Baltimore Rh-Typing Laboratory in obtaining the Xg-Typing is gratefully acknowledged.

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Dean's LETTER

Dear Students, Members of the Alumni, and Friends of the Medical School:

The accumulation of knowledge has greatly increased the necessity that medical science be taught and understood in an integrated manner. The function of cells, organs and systems are so interrelated that the various disciplines dealing with them must be taught in a coordinated manner. This is effected by having the Curriculum and Instruction Committee made up of faculty members that represent the medical faculty as a whole rather than their department.

These individuals are usually younger faculty with less established standing in the departmental structure. This makes it easier for them to accept and appreciate the necessity to present overall information in a coordinated way. For example, the kidney and kidney function is taught on a structural, functional basis and the influence of abnormal factors, including disease, is presented at the same time. This involves an integrated presentation from the viewpoints of anatomy, physiology, endocrinology, neurology, pathology and finally clinical pharmacology.

The difference between older methods of teaching and those now in vogue is primarily the teaching of all of these subjects in an integrated way rather than isolated departmental presentations with considerable separation due to time.

The Faculty Curriculum and Instruction Committee of this Medical School is effectively working to bring about these changes in the medical education program at Maryland.

Sincerely,

WILLIAM S. STONE, M.D.
Dean

Reorganization of School Administration

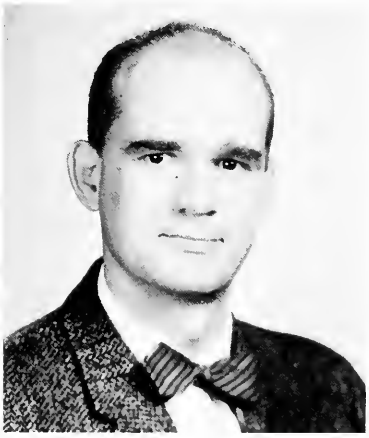
WITH THE RETIREMENT of Dr. D. C. Smith, some reorganization has taken place in the Administration of Curriculum, Student Affairs, and Admissions in the School of Medicine. Dean Stone has nominated three assistant deans.

Three members of the faculty have been invited to serve as assistant deans. The first of these is Dr. Eugene J. Linberg, assistant professor of surgery who will serve as assistant dean for Curriculum and Instruction.

Dr. Linberg's areas of responsibility will include studies of the curriculum of the School of Medicine and methods of instruction. He will also give attention to the coordination of special lectures and will be responsible for class scheduling and student section assignments.

Other studies will include the coordination of student research projects, counseling and planning of the use of free time by students and the important duty of scheduling National and State Board examinations for the second and fourth year classes. He will serve as chairman of the Honors Committee and will conduct a follow-up of graduates performance and career development. He will be responsible for the care of student records and grades.

Dr. Karl H. Weaver of the department of pediatrics will serve as assistant dean for admissions. Dr. Weaver's areas of responsibility will include the important post of chairman of the Admissions Committee. He will also edit and prepare the catalog of the School of Medicine. He will act as liasion on admissions for the Association of American Medical Colleges and will conduct studies of admissions data including student selection. He will conduct a follow-up on student performance from the admissions viewpoint. He will be concerned with admission problems of graduate



DR. WEAVER

DR. ROSENHOLTZ

students as they are involved in the School of Medicine. Dr. Weaver will also serve as coordinator with premedical advisers in the numerous colleges and universities from which applications are received.

Dr. Mitchell J. Rosenholtz, assistant professor of pathology, will serve as assistant dean for Student Affairs. This important area of responsibility will include the responsibility as secretary for the Faculty Committee on Scholarships and Loans. Dr. Rosenholtz will also serve as liaison with students and student advisors and will conduct the Freshman and Junior Orientation programs in September of each year. He will serve as chairman of the Student Activities Committee and chairman of the Student Advancement Committee counseling on conditions and failures. He will advise the Dean on matters of student discipline.

Dr. Rosenholtz will also study the matters of student social liaison, student information and will maintain student registration and Blue Cross records. He will serve as liaison on the national intern matching program. He will also be responsible for the student aspects of the precommencement and commencement exercises.

Dr. Stone advises the BULLETIN that while there are many overlapping areas of responsibility, the three assistant deans will work in close cooperation with Dr. Stone in order to provide a smooth working and efficient administrative team.

Dr. Bradley Retires as Pediatric Head

Dr. J. Edmund Bradley, for many years professor and chairman of the department of pediatrics at the School of Medicine, retired on September 1, 1965, after 31 years of service to the School of Medicine, 17 of them as head of the Department of Pediatrics.

A physician of the old tradition, Dr. Bradley was in part-time private practice for a number of years before being named full-time professor of pediatrics. Despite an intense scientific program, Dr. Bradley always maintained a child-oriented department, championed by his personal kindliness and consideration.

During his tenure, a number of precedents and developments occurred. He established a unique pediatric research laboratory to explore fundamental problems encountered in clinical pediatrics. He introduced many innovations in patient care, not alone with the hospital but in the out-patient clinics conducted throughout the state as well as in the City of Baltimore. He organized a teaching program for medical students and a training program for interns and residents rated in 1964 as "one of the top 5 programs in the nation." He maintained as well an active connection with the Department of Psychiatry. The Department of Pediatrics was actively affiliated with the Lutheran Hospital of Maryland.

Dr. Bradley always felt a deep obligation to the community that prompted him during his tenure at the University to initiate and to participate in innumerable projects that have vastly increased the contribution of the university to the welfare of children and their parents throughout the Sate of Maryland.

A few of Dr. Bradley's accomplishments may serve to indicate the wide range of his influence. In the field of science, he was the first to observe and describe hypertension in children associated with Wilm's tumor. He also developed a number of successful and widely used treatments for controlling epidemic viral vomiting. He brought attention to the high incidence of lead poisoning among the lower socioeconomic groups in the City of Baltimore and his work in the pediatric research laboratory led to effective treatment for lead encephalopathy. Due to his recognition of the cause

of lead poisoning the incidence of serious lead intoxication was reduced through early recognition and prompt treatment in clinics, including the one he established at the University Hospital.

He was among the first to correlate polycythemia and pheochromocytoma and to identify its cause as erythropoietin, a substance secreted by the adrenal.

Dr. Bradley was consultant to several publications, including *Current Medical Digest*, and was himself the author of more than 50 scientific publications.

During his tenure, a high degree of excellence in both undergraduate and postgraduate pediatric teaching was maintained. He extended the medical school's training program in pediatrics to a number of community hospitals in Baltimore, including the Lutheran Hospital, in order to improve the care of children in those institutions. He developed the first pediatric outpatient clinic at the Provident Hospital. The first two Negro physicians to complete a program of training in pediatrics were later certified by the American Board and entered active practice in this specialty.

Working with Dr. Allen F. Voshell, director of Kernan's Hospital, Dr. Bradley consummated an agreement to provide pediatric resident coverage there as well as at the St. Agnes and Bon Secours Hospitals.

A consultant's consultant, Dr. Bradley was always available for general advice to the City Health Department and state officials. He served on numerous councils, boards, and committees including the State Council of Medical Care (1952-1961), the State Board of Health and Mental Hygiene (1961, reappointed to 1971), the Steering Committee on Mental Retardation (1964), the Organizational Committee of the State Board of Health and Mental Hygiene (1961), the Staffing Committee of the Board of Health and Mental Hygiene (since 1961), and the Committee of the Fetus and the Newborn of the American Academy of Pediatrics (1958-1964).

As a member of the Committee on State Planning for the Handicapped Children, he helped establish the Central Evaluation and Diagnostic Clinics at the University of Maryland and the Johns Hopkins University.

He was a member of the Committee on Planning for Residential Centers for the Mentally Retarded, and worked with the Sisters of St. Francis in establishing a school for the mentally retarded, and with the Sisters of St. Gabriel's to establish a home for similarly afflicted children.

He was instrumental in instituting and organizing pediatric psychiatry in the Psychiatric Institute of the University of Maryland and later in the establishment of an in-patient unit for children there. He also laid the ground work for the development of a cooperative research program between the School of Medicine and the Rosewood State Hospital for mentally retarded children.

Dr. Bradley was President of the University Hospital's medical staff in 1952 and in 1954. He was chairman of the executive committee of St. Joseph's Hospital for two years and later secretary of the pediatric section of the Baltimore City Medical Society. He was secretary and treasurer of Alpha Omega Alpha Honorary Society in Maryland from 1953 to 1956 and later served as counselor of the chapter from 1956 to 1959. He was a member of the Board of Trustees of the Hospital Council of Maryland and member of the University of Maryland Senate.

Dr. Bradley, a native Baltimorean, is an alumnus of Loyola College and of the Georgetown University School of Medicine. Upon his retirement members of his department presented the School of Medicine with an excellent portrait by Stanislav Rembski which is reproduced herein.

Dr. Bradley, upon retirement, moved to his favorite second home on Cape Cod, Massachusetts. However, after a short rest, he plans to be available for such consultation and advice as could be of use in the advancement of pediatrics, his chosen specialty, and the field in which this great humanitarian, physician, scholar, and administrator has created for himself an enviable place and a distinguished reputation.

Faculty NOTES

DR. SAMUEL P. BESSMAN, professor of pediatric research, spoke on the subject of fluid balance at the Children's Hospital in Akron, Ohio, on October 26th, and the following day at the Mayo Clinic in Rochester, Minnesota.

DR. SAMUEL P. BESSMAN, professor of pediatric research, was one of 3 co-chairmen at the scientific seminars held at the Rosewood State Hospital on November 21, 1965.

DR. JOHN M. DENNIS, professor and chairman of the department of radiology and for several years president of the Maryland Division, American Cancer Society, was honored by the society on the occasion of a recent meeting of the board of directors. Dr. Dennis was presented with the American Cancer Society's bronze medal and certificate in recognition of his outstanding contributions to the control of cancer. Dr. Dennis will continue as a member of the board of directors of the Maryland division.

On the occasion of the Thirteenth Postgraduate Course, the 1966 Diabetes in Review, sponsored by the American Diabetes Association at the Mayflower Hotel in Washington, D. C., a paper entitled "The Action of Insulin" was presented by Dr. Samuel P. Bessman, professor of pediatric research and professor of biochemistry at the School of Medicine.

DR. EMIL BLAIR, assistant professor of surgery, is on sabbatical leave for a year at Sweden's oldest medical school, the University of Uppsala, where he will participate in all activities of the department of thoracic surgery.

ANATOMISTS VISIT BALTIMORE

MANY YEARS AGO anatomists were primarily descriptive morphologists. Now, many study living tissues—in four dimensions (3 of space, and one of time)—and anatomy and physiology become one. Anatomists dissect tissues and cells with the electron microscope, magnify intracellular particles many thousands of times until they are, in fact, studying the anatomy of protein molecules, i.e., biochemical anatomy. It has been well said that anatomy today is anything that an anatomist thinks about.

On November 19 and 20, more than 100 members of the Southern Society of Anatomists, representing over 40 American medical schools and 5 foreign universities, met at the University of Maryland School of Medicine. More than 30 papers were presented at sessions held in Davidge Hall. They ranged in subject matter from gross anatomy, histochemistry, neuroanatomy endocrinology, muscle physiology, hypothermia, comparative anatomy, pulmonary anatomy, and physiology to electron microscopy.

Dr. Vernon E. Krahl, professor in the department of anatomy, as this year's president of the Southern Society of Anatomists, was host to the membership in Baltimore. Following the formal program on Friday, November 19, the group enjoyed a social hour followed by the annual dinner in La Ronde, atop the Holiday Inn, seeing a revolving, panoramic view of Baltimore by night. Featured speakers at the dinner program were Dr. Albin O. Kuhn, vice president for the Baltimore Campuses of the University of Maryland, and Dr. John Z. Bowers, director of the Josiah Macy Foundation.

In addition to papers from the platform and annual business meeting, Saturday's program included a symposium on "Novel Methods of Teaching Anatomy," in which members of the society demonstrated special and original techniques for helping medical and dental students to understand and remember key facts and relationships in their studies of human anatomy.

The Southern Society of Anatomists

serves several useful and important roles in anatomical teaching and research today. It not only provides, in the Fall, an opportunity for the exchange of information and ideas as well as the regular Spring meeting of the national group (The American Association of Anatomists) but it has been able to maintain a single-session format and a less formal atmosphere in which medical and graduate students, too, may have a podium and a less formidable, perhaps more sympathetic, audience than at the larger, multiple-session meetings of the national organization. Formerly, each medical school was required to devise its own summer teaching program in anatomy for its weaker students, repeaters, etc. Now, under the aegis of the Southern Society of Anatomists, it has been arranged so that in any particular summer only one of some 25 southern medical schools is obliged to offer a comprehensive course in anatomy. Students of the member schools, needing to strengthen their grasp of anatomy, attend these special courses. Thus, just one, not 25, schools is obliged to engage its faculty of anatomy in summer teaching.

During the recent meetings, architectural features of Davidge Hall, such as hidden dissecting rooms and secret spiral staircases (reminiscent of the early days when an aroused populace often objected to human dissection), were opened and displayed to the visitors. This reminded anatomists of their stormy early history and of the fact that the University of Maryland was the first American medical school to require human dissection as part of the regular medical curriculum. They were also reminded that Davidge Hall is the oldest building in America to be used continuously in medical education since its erection in 1812.—VERNON E. KRAHL, M.D.

Los Amigos de Cajal Dedicate Memorial Bust at Petilla

At dedication ceremonies attended by more than 30 American and Spanish neurologists, a bust of Santiago Roman y Cajal was dedicated at Petilla on Tuesday, September 14, 1965.

The Amigos organization, an international group, was headed by Dr. Charles Van Buskirk of York, Pennsylvania and a member of the faculty of the School of Medicine. The European organization was headed by Dr. Alberto Portera, formerly of the staff of the School of Medicine of the University of Maryland, and now practicing neurologist in Madrid.

Early in 1965, prominent American and Canadian neurologists were contacted concerning the development of a memorial to be placed at the birthplace of the eminent neurohistologist. More than 115 subscriptions were received following which the preparation of the bronze head of Cajal proceeded.

Following the conclusion of the International Neurologic Congress in Vienna, the group gathered in Madrid and under the guidance of Dr. and Mrs. Portera concluded a tour of the environment of Cajal and viewed the numerous monuments and memorials to him including a visit to the Cajal Institute where the group viewed the original work bench and equipment with which the important discoveries were made and, as well, the memorabilia of the honors and awards which came to Cajal in his later years. This was followed by a bus journey to Zaragoza and a visit to the school of medicine where Cajal studied as a young man and where he later began his anatomic work. This was followed by a journey to Haja and then to Petilla where the ceremonies were held.

Bust of Don Santiago Ramon y Cajal in its present place of honor on the facade of the village church in Petilla.

Don Luis Ramon y Cajal speaks at unveiling ceremony.

From the local press the following is extracted:

Yesterday in the Navarrese town of Petilla de Aragon, American and Spanish representatives of the friends of Cajal rendered homage to the illustrious scientist, born in

View on Main Street of Petilla.

that town. This homage consisted of the placing of a bust donated by the friends of Cajal, dedicated in a simple act participated in by provincial and local authorities and the entire population of the town of Petilla, a small town in Aragon perched on a sheltered crag under the protection of the bold rocks so common in that portion of Spain.

The simple and solmen act was performed in the town square adjacent to the parish church. Outside, in the porticoes awaited the local authordities including the president of Navarre, Don Felix Hurate, the deputy for the district, Don Amadeo Marco, the provincial health officer, Don Javier Vinas, the district deputy of Sos, Don Felix Cuellar, the president of the Physicians College of Pamplona, Dr. Garro, the secretary of the Prince of Viana Institution, Senor Uranga, the president of the Royal Academy of Zaragoza, Dr. Oliver Rubio, the mayor of Petilla, Senor Sanchez Gaston.

The group then proceded to the portico of the small church where Dr. Van Buskirk of York, Pennsylvania and his group were met by the officials and the parish priest, Don Jesus Auricinea. From the parish archives was then read the certificate of birth and baptism of Cajal, a simultaneous translation into English being provided by Dr. Portera.

"At 9 P.M., May 1, 1925, was born and the following day was solemnly baptised by me, the undersigned vicar, a boy child who was named Santiago Felipe, legitimate son of Fausto Ramon, surgeon and Antonia Cajal, native of Larres and resident in this town. Paternal grandparents, Esteban Ramon, farmer, native of Isin, Province of Huesca, and Rosa Casasus, native of Larres, Province of Huesca. Maternal grandparents, Lorenzo Cajal, weaver, native of Asso, Province of Huesca, and Isabel Fuente, native of Larres, Province of Huesca. The godparents were Francisco Sanchez, native of Petilla, province of Navarre, and Anna Maria Iriarte, native of Isuerre, Province of Zaragoza, whom I admonished of the spiritual parenthood and the obligations which they were contracting. Registered, signed, Toribio Barnechea, vicar of Petilla."

At this time a film entitled "The Environment of Santiago Cajal" prepared in Spanish by Drs. Van Buskirk and Portera was shown for the first time to the audience consisting mainly of residents of Petilla and the official party. This was followed by the simple act of unveiling the bust. Cajal's son, Don Luis Ramon y Cajal, was present at the ceremony and uttered some brief moving words to express his gratitude. He was followed by Dr. Carrato, director of the Ramon y Cajal Institute of Madrid, who in English thanked the "Friends of Cajal" for their initiative. Dr. Castro, professor of histology of the Faculty of Medicine of Madrid, a favorite student of the great man, summed up with simple clarity the contribution which Cajal made to the world of science, condensed, including the neuronal theory, much discussed 50 years ago and which today is accepted by all neurologists. Dr. Castro concluded with reference to the many thousands of discoveries which are attributed to Cajal and which serve today as guidelines of present day investigation. His address was followed by remarks by Senor Huarte who reviewed the life of Cajal and finally amidst the applause of all the bystanders, Dr. Van Buskirk and the mayor of Petilla, Senor Sanchez Gaston, unveiled the bust, terminating the ceremony. The

official party was next entertained at luncheon, departing for Zaragoza that evening.

A full account of the proceedings was contained in the *Heraldo de Aragon* of the day.

Those participating in the ceremonies at Petilla included: Dr. Carrato Ibanez, Dr. Castro, Dr. Aguirre, Dr. Calderon, (Mr.) Louis Ramon y Cajal, Srta. M. de los Angeles Gasset, Dr. Estevez, Col. Hoffman U.S.A.F., Dr. Smith, Dr. Charles Van Buskirk, Dr. Francis W. Ramsay, Dr. A. M. Rabiner, Dr Juan Bravo of Madrid.

Contributors to the Cajal Memorial Fund included the following physicians: Allen, J. N., Alpers, B. J., Anderson, W. W., Arnold, J. G., Bailey, A. A., Blue, W. W., Boldrey, E. B., Bordley, J., Coblentz, R. S., Cotter, E., Courtois, G. A., Crosby, E. C., Currier, R., Davidson, L., DeJong, R., Drachman, D. B., Echlin, F. A., Elkes, J., Reindel, W., Fox, C., Gantt, H., Garvin, J. S., Gibson, W. C., Groff, R. A., Gurdsgian, E. S., Hearn, J. B., Heath, R. G., Heck, A., Henderson, C. M., Hills, J. R., Hinsey, J. C., Horenstein, S., Hulfish, B., Humphrey, T., Ingram, W. R., Jacobs, H., Jousse, A. T., Joynt, R. J. Kane, C. A., Koenig, H., Konigsmark, B. W., Kurland, L. T., Kurtzke, J., Lemni, H., Madow, K., Magee, R. R., Matzke, H. A., Mericle, E. W., Mettler, F. A., Miller, Z. R., Millikan, C. H., Moore, M. T., Mosberg, W., McNaughton, F. L., Nauta, W., Nelson, E., Odom, G. L., Oldendorf, W. H., Parkinson, D., Peele, T. L., Penfield, W., Porter, H., Quadfasel, F. A., Rabiner, A. M., Ramsey, F. W., Rasmussen, T., Richardson, E. P., Richter, R. B., Robb, J. R., Roizin, L., Rose, J. E., Rosenbaum, H., Ross, A. T., Scharenberg, K., Schlezinger, N. S., Schmidt, R., Schuster, F. F., Scoville, W. B., Segarra, J. M., Shapiro, S., Smith, B., Smith, B. H., Snider, R. S., Soc. Clin. Neurol., Speakman, T. J., Steegman, A. T., Stein, J. M., Sullivan, J. F., Sweet, W. H., Tarlov, M., Taylor, R. A., Teasdall, R., Thompson, H. G., Toman, J. E. P., Torres, F., Toupin, H. M., Truex, R. C., Tucker, J. C., Utterback, R., Van Buskirk, C., Von Bonin, G., Wagner, J., Walker, A. E., Walsh, F. B., Watson, C. W., Weiz, S., Whelan, J., Windle, W. F., Wolbarsht, M., Woodson, F. G., Yakovlev, P.

Organization Committee of Friends of Cajal (L to R): Dr. Portera, Madrid; Dr. Van Buskirk, U. S. A.; Dr. Bravo, Madrid; and Dr. Wagner, U. S. A.

President's Letter

Fellow Medical Alumni:

Five years ago the surgical faculty of the medical school decided to form a surgical society composed of the faculty, former surgical residents of the University Hospital, and faculty members and former surgical residents of affiliated hospitals and thus came into being the University of Maryland Surgical Society. The following year members of the department of internal medicine started a similar group. Many years previously the obstetrical and gynecological department had organized the Douglass Society and subsequently the pediatricians joined together in a like manner. Each of these societies started a program and periodic meetings which grew in interest and attendance.

Two years ago a new precedent was set when all four of these organizations joined together with the University of Maryland Medical Alumni Association in a joint professional and social reunion. This was a tremendous success and it was unanimously agreed that this reunion should be repeated in two years, to be renewed at the end of each two year span. 1966 marks the first renewal of this program.

Dr. John Sharrett, the general chairman of the affair, has been working diligently since May 1965 on the 1966 meeting. The chairmen of the other groups have met with Dr. Sharrett and have outlined most impressive individual society programs. Abstracts of papers presented for approval have arrived from many states and numerous foreign countries. Tentative arrangements have been made for a special issue of the *American Surgeon* to be turned over to this year's surgical program and similar arrangements have been made by the groups in medicine, obstetrics and gynecology, and pediatrics. This reunion is increasing in interest and of importance to us all and we may well be proud of this which the University of Maryland has created. This may well set a pattern for other organizations and may be copied by other medical institutions.

Continued on page xv

The University of Mary

Statement of Cash Receipts and E

Cash Balances, May 1, 1964:

Maryland National Bank—Bulletin Fund	$1,788.44		
—Alumni Fund	4,433.38	$ 6,221.82	
—Savings Account		5,000.00	
Eutaw Savings Bank—Funded Reserve		15,902.75	
Baltimore Federal Savings & Loan Association—			
Student Loan Fund		1,007.51	
Cash on hand		100.00	$28,232.08

Receipts:

Bulletin Fund—Contributions		$ 3,216.00	
Alumni Fund:			
Dues	$7,518.00		
Annual Banquet	2,072.00		
Ladies' Activities	114.75		
Savings Account Interest	176.40		
Oyster Roast	385.00		
Miscellaneous	8.75		
Contribution from OB & Gyn Societies	583.23		
Board Meeting Dinner Reimbursements	57.75	10,915.88	
Funded Reserve—Interest		622.13	
Student Loan Fund:			
Contributions	$ 505.00		
Interest	42.76	547.76	15,301.77
TOTAL CASH TO ACCOUNT FOR			$43,533.85

Expenditures:

Bulletin Fund:			
Fee—Editor	$1,000.00		
Bulletin Account—			
University of Maryland	3,500.00	$ 4,500.00	
Alumni Fund:			
Salaries	$3,970.15		
Fee—Exec. Secy	500.00		
Payroll Taxes	152.96		
Printing and Office Supplies	267.41		
Postage	383.91		
Alumni Day (1964) Expense	5,761.77		
Alumni Day (1965) Expense	85.16		
Board Meeting Luncheon	106.75		
Auditing	150.00		
Miscellaneous	202.88		
Oyster Roast	570.00		
Contribution to Bulletin	2,000.00	14,150.99	

cal Alumni Association

or the year ended April 30, 1965

Cash Balances, April 30, 1965:

Maryland National Bank—Bulletin Fund	$ 504.44	
—Alumni Fund	1,114.87	$ 1,619.31
—Savings Account		5,176.40
Eutaw Savings Bank—Funded Reserve		16,524.88
Baltimore Federal Savings & Loan Association—Student Loan Fund		1,555.27
Cash on Hand		7.00
		$24,882.86
TOTAL CASH ACCOUNTED FOR		$43,533.85

Student loans of $4,900.30 were outstanding at April 30, 1965.

Abstract of Minutes of Board of Directors

A meeting of the Board of Directors was held on Oct. 12, 1965. Minutes of the previous meeting were approved. The Treasurer's Report was given and the balance on hand showed the association to be in good condition. Treasurer's Report was accepted.

At the previous meeting the president was asked to appoint a committee to study what involvement the Alumni Association should undertake in respect to functions held at out-of-town meetings. Dr. Scarborough, president, reported that Dr. Supik had accepted appointment as chairman of this committee.

The committee to distribute pamphlets known as "Research and Educational Activities, Department of Medicine, Univ. of Md.," whose chairman is Dr. Lisansky, has recommended that a copy of the pamphlet be sent to each member of the senior class. It was reported they have been sent by the Alumni Office.

A note from Miss Beth Wilson calls our attention to the documentaries WBAL-TV is preparing. One will be titled, "The Anatomy of Medical Education" and will follow a medical student through his four years at the Univ. of Md. The other will be a historical documentary about the Medical School, centered around Davidge Hall and the events it has witnessed. It will feature such persons as Dr. Nathan Smith, Dr. John Crawford, Dr. Francis Donaldson, Dr. Robley Dunglison and other physicians who are responsible for the traditions of our Medical School. These are long-term projects and we are told each one may be many months in the making.

Dr. Sharrett, chairman of the 1966 Maryland Medical Reunion which will coordinate their activities with Alumni Day to be held May 5, 6, and 7, 1966, reported that he has talked with Dr. Arlie Mansberger who will be responsible for planning the program of the Surgical Society, and Dr. Edmund B. Middleton, who will be responsible for the plans of the Obstetrical and Gynecological Society. He has yet to learn who will be responsible for making plans for the programs of the Hospital Medical Society.

Gifts from Dr. Theodore McCann Davis, class of 1914, totaling $510.00 were reported to have been received and deposited.

A memo from Arnold Blaustein, class of 1966, brought forth information that *Alpha Omega Alpha* together with the Student

Council now sponsors a Medical History Society. They plan to hold 3 or 4 meetings a year and wondered whether our board might have a good suggestion for a speaker. It was felt that here is something that corresponds with interests of the board. Possible speakers for them were suggested.

At the November 10th meeting of the board Dr. Scarborough, president, reported the Honor Award Committee, composed of Drs. Morris, Clemson and Young, has met and sent to him their nominee for the recipient of the Annual Honor Award and Gold Key. Unanimous approval of the board to their choice of Dr. T. Nelson Carey as recipient of his honor was given heartily. Dr. Scarborough will see that Dr. Carey is notified officially.

Dr. Scarborough announced that he has contacted Dr. Krantz and requested that he accept appointment to the editorial board of the BULLETIN, to represent the Medical Alumni Association. Dr. Krantz has accepted the appointment.

The December meeting of the board will be dispensed with and the next meeting will be held in January.

Respectfully submitted,

THEODORE KARDASH,
Secretary

U. OF M. ALUMNI AT ANNUAL MEETING OF SOUTHERN MEDICAL ASSOCIATION

Twenty-one medical school alumni got together in the Grand Ballroom of the Rice Hotel on the occasion of the Southern Medical Association convention held in Houston, Texas the first week in November, 1965.

Among those present were Dr. and Mrs. F. A. Holden of Baltimore, Dr. C. Martin Rhode, Class of 1940 of Augusta, Georgia, Dr. and Mrs. H. M. Robinson, of Baltimore, Dr. and Mrs. R. C. V. Robinson of Baltimore, Dr. and Mrs. L. C. Dobihal, Dr. and Mrs. W. F. Beckner, Dr. and Mrs. Jack Sugar, Dr. Mortimer Williams, Dr. and Mrs. Stuart Brown, Dr. John Wagner, Dr. George Peer of the Class of 1938, Dr. James Cianos and Dr. and Mrs. John J. Bunting of the Class of 1938. The Buntings acted as local hosts.

Dr. R. C. V. Robinson, Councilor for Maryland to the Southern Medical Association, brought as his guest this year, Mr. Richard M. Susel of the University of Maryland Class of 1966. Mr. Susel represented the University of Maryland School of Medicine at the Convention. Each year the Southern Medical Association invites a student representative from each medical school throughout the South.

PRESIDENT'S LETTER (Cont.)

Annually the Medical Alumni Association chooses a worthy alumnus to receive the Honor Award. The recipient of the 1966 Honor Award is honored, respected, and loved by all of us and I know of no one more worthy to receive it. He is Dr. T. Nelson Carey, one of the University's most diligent and loyal supporters for the past 42 years. I am sure that all of the alumni will be happy in the choice which has been made and will want to greet Dr. Carey on Alumni Day.

I think it is important to again mention here that the Maryland Medical Reunion will be held this year on May 5, 6 and 7, 1966. Please make note that this is approximately one month earlier than the usual Annual Alumni Day activities, and the date of the meeting coincides with the original Maryland Medical Reunion in 1964 which was so successful. We expect between five and six hundred returning alumni to attend, so keep the dates in mind and when you receive your preregistration slip mail it in immediately so that reservations can be made for you for the luncheon and for the alumni banquet. We look forward this year to seeing the largest alumni turn-out in the history of the University of Maryland School of Medicine.

C. Parke Scarborough M.D.

C. PARKE SCARBOROUGH, M.D.
President

Alumni Day May 6, 1966

Alumni Reunion Combined with Meeting of University Hospital Medical Associations

The president and directors of the Medical Alumni Association have announced a three day scientific session, on the campus of the School of Medicine, May 5, 6 and 7, 1966. Events will begin on Thursday, May 5th with a reception for all at the Caswell Room of the Lord Baltimore Hotel from 8:30 to 10 P.M.

Alumni Day will begin officially at 8 a.m. May 6, with registration in the Health Sciences Library. This will be followed by a General Assembly at 8:45 A.M. This will be followed by Scientific Sessions and the morning will be concluded by the annual business meeting of the Medical Alumni Association which will be held in Chemical Hall at 11 o'clock concluding at noon.

DR. T. NELSON CAREY

Dr. T. Nelson Carey to Receive Alumni Award and Gold Key

The Medical Alumni Association has nominated Dr. T. Nelson Carey, professor of clinical medicine in the school of medicine, as the recipient of the Alumni Award and Gold Key. Dr. Carey, known to two generations of medical students and faculty and a long time active member of the staff of the University Hospital, will receive the honor from the hands of Dr. C. Parke Scarborough, president of the Medical Alumni Association, at appropriate ceremonies in Chemical Hall following conclusion of the annual business meeting.

Dr. Carey is a native of Baltimore and an alumnus of Loyola College in the Class of 1923. He completed his studies for the degree of medicine at the University of Maryland, graduating in the Class of 1927, following which he served his rotating internship at the Mercy Hospital, becoming chief resident in medicine in 1929. This was followed by a post-doctoral fellowship at the Johns Hopkins Hospital in 1930. He immediately entered active practice of medicine and teaching, serving also as student health physician at the school of medicine. His intense application to clinical medicine soon became evident and Dr. Carey rapidly became known as a brilliant analyst of complex medical problems and an able consultant. He was obviously at home with and expressed delight in the application of his talents to the solution of complex medical problems. He became the doctor's doctor not only as a consultant but as the personal physician to many of the staff of the school of medicine and other hospitals

throughout the city. His progress in the department of medicine was steady and during World War II it was Nelson Carey who shouldered an overwhelming load of clinical teaching, literally serving as the unnamed professor of an overloaded and understaffed department. This challenge he met despite physical handicaps which prevented his entry into the military service.

Following the war he returned to his active practice as a consultant but was again called to serve as acting head of the department of medicine for a year during which time Dr. Maurice Pincoffs served as a special assistant to the President of the University. He then returned to active clinical practice.

He is author of a number of scientific publications relating to infectious diseases, drug toxicity, and many other important contributions.

During his undergraduate days he was the recipient of a Hitchcock Scholarship, the Randolph Winslow Scholarship and the Faculty Gold Medal for the highest average at graduation. He is a member of the American Board of Internal Medicine, a member of the American Medical Association and the American College of Physicians.

Truly, this brilliant man, busy internist, consultant, teacher, friend; this keen, analytical medical mind, exceptionally brilliant, unquestionably frank and always enthusiastic is the man who on this occasion of the annual meeting of the Medical Alumni Association is selected to receive the highest accolade of the association, the Gold Medal and Honor Award for outstanding contributions to medicine and distinguished service to mankind.

Alumni to Present an Interesting Evening Program

Following the conclusion of the business meeting and the presentation of the Honor Award, a luncheon will be held in the gymnasium of the Psychiatric Building beginning at approximately 12:30 P.M. This will be followed by a reception for the 50 year honor graduates to be held in the

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HOTEL ACCOMMODATIONS

This information is provided for your convenience. Please make your reservations directly with the hotel of your choice.

	Number of rooms	*Single Rate*	*Two Persons Double*	*Two Persons Twin*	*Telephone*
Lord Baltimore Hotel Baltimore & Hanover Sts. Baltimore, Md. 21203	700	$ 9.50-$16.50	$13.00-$19.50	$15.00-$21.00	LE 9-8400
Sheraton-Belvedere Charles & Chase Sts. Baltimore, Md. 21202	250	$ 9.85-$13.00 $14.85	$13.85-$17.00	$17.00-$18.85	MU 5-1000
Emerson Hotel Baltimore & Calvert Sts. Baltimore, Md. 21203	400	$ 8.50-$12.00	$13.00-$18.00	$13.00-$18.00	MU 5-4400
Holiday Inn—Downtown Howard & Lombard Sts. Baltimore, Md. 21203	254	$13.00-$14.00	$17.00-$18.00	$17.00-$18.00	685-2500
Mohawk Motel 1701 Russell St. Baltimore, Md. 21230	126	$ 9.50-$10.50	$14.50	$14.50	837-2400

Florentine Room of the Lord Baltimore Hotel. The annual banquet of the association will be held at the Lord Baltimore at 6:30 P.M. Friday, May 6, 1966. An attractive program has been prepared by the program committee headed by Dr. John O. Sharrett.

It is expected that copies of the complete program of the University Hospital Medical and Surgical Association as well as that of the Alumni Association will be sent individually to the membership.

Those physicians desiring to make a reservation for the entire day might find it convenient to use the information on page xxix.

Anniversary Reunion Class Captains

The anniversary reunion classes should contact their Class Captains:

Class of 1916, Henry F. Buettner and George A. Bawden, co-captains.
Class of 1921, Albert Jaffe, Captain.
Class of 1926, John Askin, and W. C. Merkel, co-captains.
Class of 1931, Emmanuel A. Schimunek, Captain.
Class of 1936, Gibson J. Wells.
Class of 1941, Pierson M. Checkert.
Class of 1946, Joseph B. Workman.
Class of 1951, Wm. G. Esmond.
Class of 1956, Joseph S. McLaughlin.
Class of 1961, Michael A. Oldstone, Captain.

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Roster of Senior Alumni, 1966-67

At the annual Medical Alumni Association banquet in 1964, the president of the Alumni Association presented to the 50 year graduates of the three schools, their 50-year diplomas. This was the last for the alumni of the Baltimore Medical College, the last class being graduated in June 1914. In 1965 a similar event marked the last 50 year class for the College for Physicians and Surgeons. The alumni of the three schools will then become a single body.

It is proposed that so long as they shall live, the individual alumni of the Baltimore Medical College and the College for Physicians and Surgeons shall be listed in the BULLETIN of the School of Medicine each year, so that the identity of these physicians can properly be maintained.

In addition, the Medical Alumni Association proposes to list all known graduates of the School of Medicine of the University of Maryland including this group with the B. M. C.-P. & S group under the heading "Senior Alumni." Each year the BULLETIN will publish this directory as a reminder that a large group of active and distinguished alumni are still in the practice of medicine a half century or more after graduation.

The School and the Alumni Association do not propose to forget these honored members subsequent to their receiving the 50-year diploma. Instead, the younger men might well refer to this senior group for advice (there are over 400 living alumni in practice more than 50 years) and counsel.

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BULLETIN *School of Medicine*
University of Maryland

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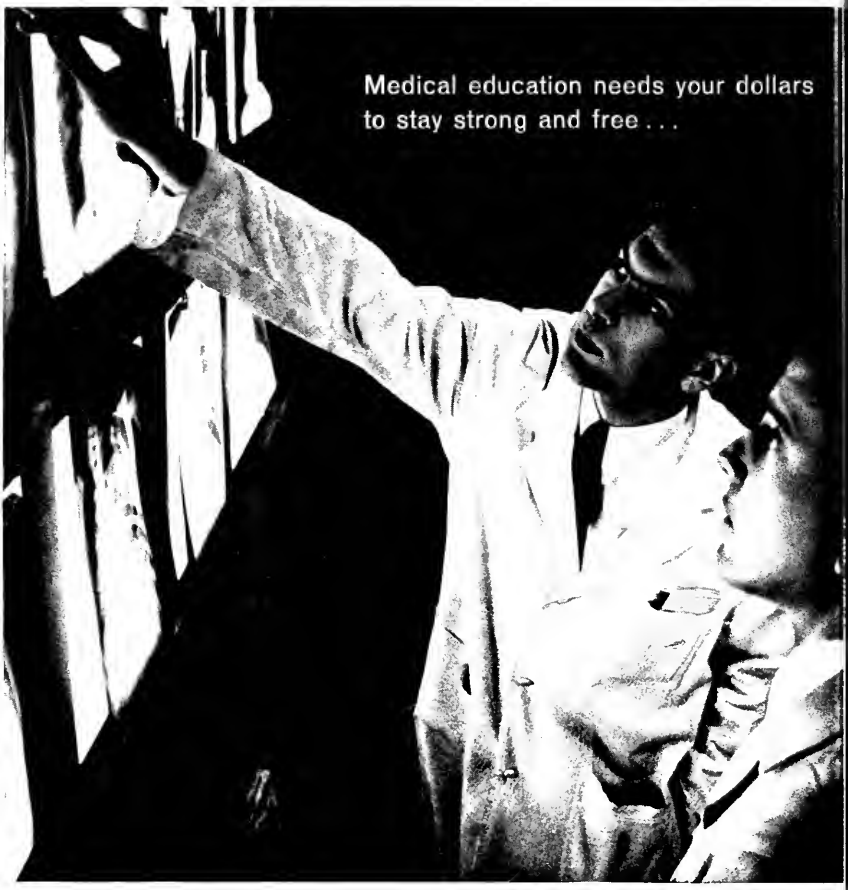

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A Correlative Study of Chronic Arterial Hypertension and Pregnancy

ISADORE G. ANCES, M.D., and ARTHUR L. HASKINS, M.D.

Toxemia of pregnancy is an acute illness of pregnant women and has been recognized as a clinical entity for several hundreds of years. Toxemia of pregnancy occurs in the United States with a frequency of about six per cent of all pregnancies. The survival of the patient with uncomplicated preeclampsia is 100%. The survival of the patient with eclamptic toxemia is about 85% which is roughly equivalent to the survival rate of the patient with Stage I carcinoma of the uterine cervix.

The perinatal mortality in preeclamptic toxemia increases to 50% over average rates. In eclamptic toxemia the perinatal mortality increases approximately 200%.

Despite the frequency of the disease, the long period of its clinical recognition, the high maternal and fetal mortality, toxemia of pregnancy remains a modern day mystery. The etiology of toxemia of pregnancy is unknown. The diagnosis of toxemia of pregnancy is made by exclusion, necessitating the consideration of other disease processes causing hypertension, albuminuria, edema, and convulsions. The treatment of toxemia of pregnancy is symptomatic. Although the immediate prognosis for mother and child is recognizably poor, the remote prognosis for the mother has been under debate for many years.

In recent years some of our concepts about toxemia have changed, particularly in regard to the prognosis in toxemia. From an era in which many considered that the recurrence rate of the disease was negligible, we have now come to know that there is a significant rate of recurrence.

In the consideration of the remote prognosis of toxemia of pregnancy, an extremely practical problem, divided opinions have indicated that toxemia of pregnancy does not cause permanent hypertension, does not predispose to permanent hypertension or worsen permanent hypertension.[1, 2, 3] On the other hand, equally voluble groups maintain that toxemia of pregnancy may result in persistent hypertension, may worsen permanent hyptertension and may predispose to permanent hypertension.[4, 5, 6, 7] The incidence of permanent hypertension following toxemia of pregnancy seemed to increase if preeclampsia was present for a period of time in excess of four weeks. This observation was refuted by the "toxemia does not cause permanent hypertension" school with the observation that the patient who developed permanent hypertension following prolonged toxemia, was in reality an individual with preexisting nonpregnancy hypertensive disease.

The current study was undertaken with a dedication to prove that toxemia of pregnancy does not predispose to permanent hypertension nor cause permanent hypertension. It was reasoned that since toxemia of pregnancy occurs only in pregnant women, that an analysis of pregnant and nonpregnant populations, were they to show similar rates of hypertension, would indicate that toxemia does not influence

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post pregnancy hypertensive rates. It was anticipated that the nonpregnant population and pregnant population would have identical incidences of permanent arterial hypertension.

A trial run with the obstetrical data at the University of Maryland Hospital indicated that such a study would be feasible. The aid of the Obstetrical Statistical Cooperative was then enlisted since the grouping of data required a relatively large sample for significance.

Material

The clinical material was collected through the Obstetrical Statistical Cooperative* for the years 1951-1960. The total sample of 288,874 pregnancies was analysed. The pregnancies were grouped according to age; less than 20 years, 20-29 years, 30-39 years and 40 and over years. Pregnancies were also grouped according to parity; para 0, para 1-3, para 4-6, and para 7 and over as in Table I. The material

Table I

Parity	0	1–3	4–6	7+	
Age in Years					Total
<20	24,497	10,943	76	11	35,527
20–29	56,980	101,550	13,664	1,412	173,606
30–39	9,872	46,391	13,673	4,518	74,454
40+	560	2,508	1,213	1,006	5,287
TOTAL	91,909	161,392	28,626	6,947	288,874

Total study sample for occurrence of hypertension relative to pregnancy.

* The obstetrical statistical cooperative was organized through the efforts of Dr. Schuyler Kohl. Dr. D. Frank Kaltreider has been responsible for the continuation of the program at Maryland. The cooperative has a membership of 18 hospitals. Each obstetrical department reports its annual experience to the central organization at the State University of New York, Downstate Medical Center. The accumulated data is stored and made available to member institutions upon request.

Table II

Parity	0	1–3	4–6	7+	
Age in Years					Total
<20	393	173	3	0	569
20–29	678	1,515	547	80	2,820
30–39	278	1,317	727	326	2,648
40+	40	160	110	78	388
TOTAL	1,389	3,165	1,387	484	6,425

Occurrence of hypertension relative to age and parity.

was viewed according to non-white and white populations. The definition of hypertension is that used by the Obstetrical Statistical Cooperative of arterial pressure of over 138 systolic and 88 diastolic. The occurrence of hypertension is shown in Table II. Significance of data was assessed by the Chi-squared statistical method.

Results

The non-white population consisted of 30% of the sample. Preliminary evaluation of hypertensive trends indicated a greater incidence of hypertension in the non-white population than in the white population. The correlative trends of age and gestation were similar in both. The groups were combined to insure significance.

To test the validity of the material in the reflection of established trends in the development of hypertension, the incidence of hypertension relative to patient age was plotted as in Figure 1. There is no increase in hypertension in the younger age groups to 29 years. At the level of 30-39 years a trend toward increasing hypertension is initiated and is further established in the 40 and over year age group.

With proof that our data reflected at least one established factor in the develop-

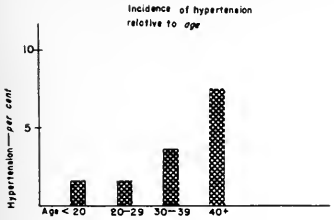

Fig. 1. The incidence of hypertension relative to patient age.

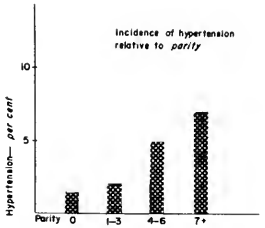

Fig. 2. The incidence of hypertension relative to patient parity.

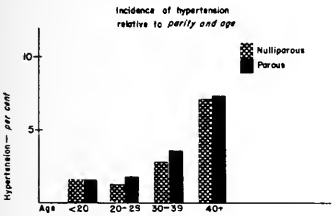

Fig. 3. The incidence of hypertension relative to patient parity and age.

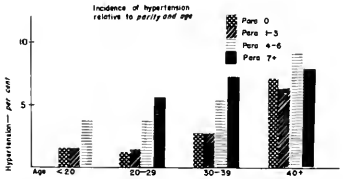

Fig. 4. The incidence of hypertension relative to patient parity and age.

ment of hypertension, the next step was to show that pregnancy and its inevitable complication of toxemia did not reflect a similar increase in hypertension with increasing numbers of pregnancies.

Accordingly the data was arranged to compare parity and incidence of hypertension as indicated in Figure 2. The nulliparous patient showed the least hypertension, the para 7 and over group showed the greatest incidence of hypertension, with the intermediate groups indicating the same trend. Since it was not possible to separate the age factor in this graphic analysis from increasing parity, it was assumed that the trend of increasing hypertension could be the result of influence of aging in itself.

The data was then arranged to compare nulliparous hypertension and parous hypertension at all age levels. As indicated in Figure 3, the incidence of hypertension was greater in the parous patient than in the nulliparous patient at all age levels with the exception of the age group at less than 20 years. At this age, the incidence of hypertension in both groups, regardless of the status of parity, was 1.6%.

Finally, in an attempt to ascertain possible influences of increasing parity on the incidence of hypertension, each of the four parity groups were tabulated and plotted as indicated in Figure 4. At each level there is a trend toward increasing hypertension with increasing parity, although it is quite apparent that this trend is not established until the level of para 4 and over is reached. There is no real difference in the incidence of hypertension between the para 0 and para 1-3 groups at any age level.

Conclusions

It is immediately apparent that the premise as originally defined: toxemia of pregnancy or pregnancy is not associated with an increased rate of permanent hypertension, could not be proved. In fact, the data analyzed indicated that quite the contrary was true. With increasing pregnancies, the rate of permanent arterial hypertension increased in all age groups over 19 years. The trend was most marked in the 20-29 and the 30-39 years groups.

It is of interest to note that Schreier, *et al.*,[6] observed that most women developing permanent elevation of blood pressure did so after three pregnancies and at least two episodes of toxemia. Our data confirms that trends toward permanent hypertension are not established until parity or greater than three has been attained.

Aging and its effect on the development of hypertension are well known. The data presented indicates that the age factor is easily demonstrable. Correction of the data for the age factor was accomplished. Comparison of the number of patients in our data who probably had toxemia of pregnancy to the corrected hypertension rate indicates that the incidence of permanent hypertension following toxemia of pregnancy could be 11.1%. This compares quite favorably to the findings of Schreier, *et al.*, in which it is indicated that 11.3% of 239 patients with toxemia of pregnancy were found to have permanent hypertensive disease.

The data and analysis presented is at variance with the conclusions of others who consider that pregnancy and toxemia of pregnancy is never followed by permanent arterial hypertension.

Summary

Data obtained through the Obstetrical Statistical Cooperative provided 288,874 pregnancies for study. The pregnancies were divided into parity and age groups. Comparisons of the various age and parity groups indicated an increased incidence of permanent hypertension with increasing age and parity.

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Benign Localized Fibrous Mesothelioma of Pleura

Clinical Considerations and Report of a Case

JOSEPH MILLETT, M.D.*

MESOTHELIOMAS of the pleura for a great many years had been considered a pathological curiosity. They were a perplexing group of tumors and there were numerous opinions regarding their clinical, roentgenological and pathological features, particularly the latter.

Klemperer and Rabin,[1] and Stout and Murray,[2] and Stout and Humadi[3] made notable contributions toward the pathological clarification of these tumors. Clagett et al[4] and Foster and Ackerman[5] aided in delineating some of the clinical features of this pathological entity.

The purpose of this report is to call attention to the clinical features of this relatively rare condition. Rubin[6] has stated that the pleura is rarely the site of primary tumors. Harrison,[7] Cecil and Loeb[8] and Ackerman and Regato[9] devote scarcely one paragraph to these conditions, while Roberts[10] mentions them not at all. It is apparent that the pathologist and the surgeon have had the greatest pre-occupation with this condition.

Case Report

A 53 year old man, complained of a grippy feeling of several days duration. There were no other signs or symptoms. The system reviews were negative and there was no weight loss. There were no previous illnesses or hospitalizations. He did not smoke. Eighteen months ago a routine physical examination, including blood chemistries, electrocardiograph, and fluoroscopy were normal.

He was six feet tall and weighed 180 lbs. Physical examination showed only a slightly injected throat. On fluoroscopy of the chest a smooth mass, which moved with respiration, was seen in the right hemithorax lying on the diaphragm adjacent to the mediastinum. Radiologic study revealed a large lobulated mass approximately 10 cm. in diameter in the right posterior thorax distinct from the contour of the posterior aspect of the diaphragm. The lesion did not involve the ribs (see Figs. 1 and 2).

The patient entered Nassau Hospital on December 20, 1964. The chemistries, including the blood sugar, the blood count and urine, roentgenographs of the abdomen, large intestine and kidneys, and the electrocardiograph

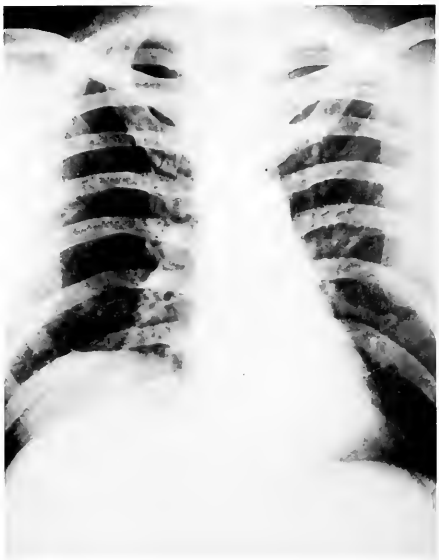

Fig. 1. AP view of chest.

Read before the section on Internal medicine, Nassau Hospital, July 14, 1965

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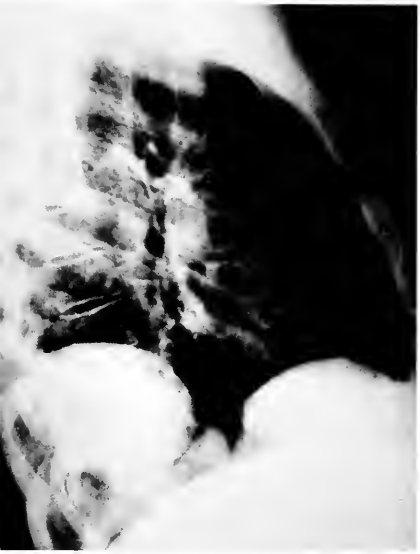

Fig. 2. Lateral X-ray of chest.

Fig. 3. Lateral tomogram of chest.

were all normal. Tomograms of the chest clearly delineated the mass in the right chest (Fig. 3).

Pulmonary function studies revealed a slight diminution in lung volume but there was good ventilatory function. Bronchoscopy was entirely normal and there was no compression of the bronchial tree. Sputum collected and later smeared showed an abundance of mucus, a few superficial squamous cells and a number of histiocytes and polynuclears. Tumor cells could not be found.

On December 29, 1964 the patient was operated upon. The chest was entered through a right posterior lateral incision in the seventh interspace. A large encapsulated tumor was found in the pleural cavity, attached to the visceral surface of the right lower lobe by a pleural-like band. This was simply divided, the tumor easily removed, and a tube was inserted into the pleural cavity. The patient stood the procedure well.

Follow-up chest films showed the tube in place, resection of one rib, some slight elevation of the right diaphragm, the lungs well expanded and no evidence of pleural fluid.

Pathologic Studies

Specimen: Mediastinal Tumor.

Gross: The specimen was a bulky somewhat pyramidal-shaped mass weighing 462 grams and measuring 13.5 x 13 x 7 cm. (Fig. 4). The outer surface was for the most part grayish-pink, smooth and glistening. However there were few irregular zones where the glistening capsule had been denuded. There were other areas of coarse nodularity. The entire mass had a soft, rubbery consistency. Repeated incisions disclosed a solid lobulated pale yellowish-tan glistening tumor tissue. The cut surface had a mucinous feel. One of the incisions passed through a 4 x 2.2 cm. sharply demarcated pale yellow soft zone of necrosis. There was considerable variation in the size of the lobules, some being but a few mms. in diameter. This lobular pattern was produced by shallow branching fissures (Fig. 5).

Microscopic: Numerous sections removed from various areas showed a tumor composed almost entirely of small spindle shaped cells, some arranged in fascicular pattern. There was varying density of the cells. In some areas they were crowded together, in others they

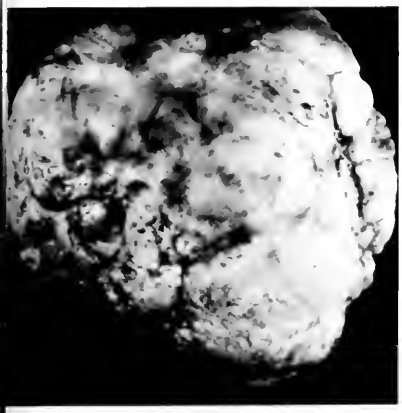

Fig. 4. Fibrous mesothelioma—bulky tumor.

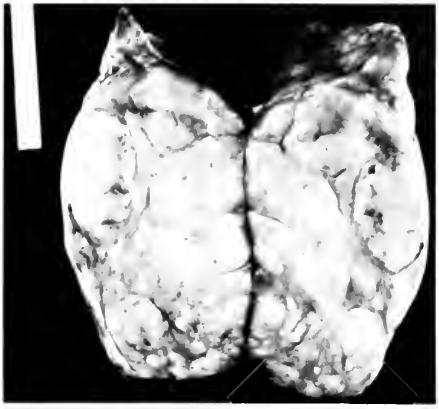

Fig. 5. Incised tumor demonstrating capsule and lobulations.

were more loosely arranged. In all parts of the tumor there were varying amounts of collagen fibrous tissue arranged in strands. In a few of the sections there were split-like spaces principally distributed at the periphery of the growth. These spaces were lined by cuboidal or flattened cells suggesting mesothelium. The sections through the necrotic zone showed a sharp demarcation between the dead tissue and the adjacent viable growth. There was a zone of dense collagen fibrous tissue at the periphery of the necrosis. A small venous channel contained an organizing thrombus. All of the tumor cells were uniform in size. The nuclei lacked any evidence of malignant change. Mitoses could not be found (Fig. 6 and 7).

Diagnosis was a benign type of mesothelioma of the pleura.

Several slides were sent to Arthur Purdy Stout, M.D., department of surgical pathology, College of Physicians and Surgeons of Columbia University, for consultation, who, in personal communication stated—"This tumor is a characteristic benign fibrous mesothelioma of the pleura. It has the usual gross features and the 'patternless pattern' that are so distinctive of mesothelioma."

Diagnosis: Benign fibrous mesothelioma of the pleura.

The patient made an uneventful recovery and left the hospital on January 7, 1965. He was last seen in the office on February 1, 1966.

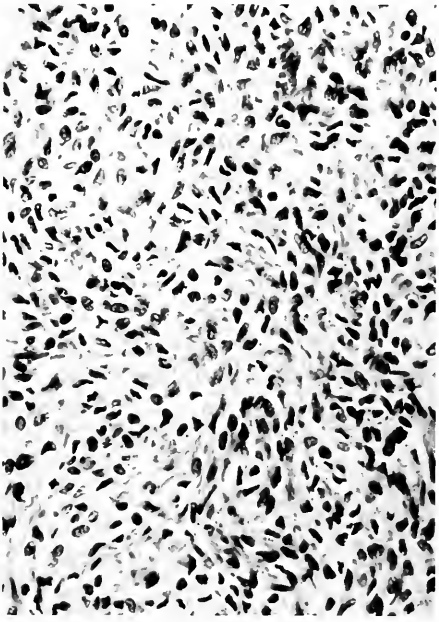

Fig. 6. Photomicrograph of tumor (100 X).

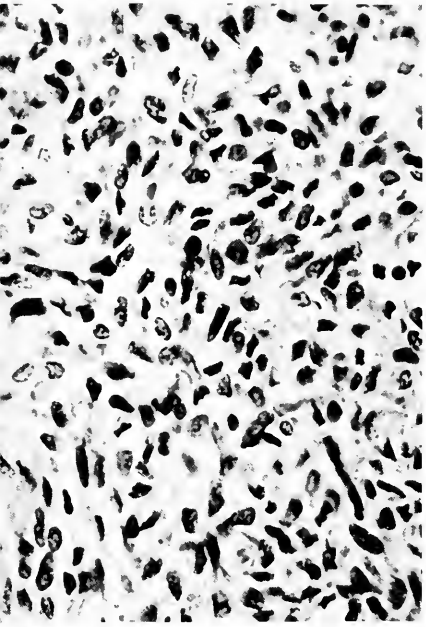

Fig. 7. Photomicrograph of tumor (400 X). Note Fibroblasts

He was back at work on full duty and had no complaints.

Discussion

Benign fibrous mesothelioma is a localized, well encapsulated, sometimes lobulated fibrous tumor of the pleura, arising mainly from the visceral pleura, occasionally from the parietal pleura and rarely from the pleura of the interlobar fissures. It projects outward into the pleural cavity held by a stalk. This solitary type is usually benign. Microscopically it contains collagen fibrous tissue, spindle shaped cells and mesothelial cells and is histologically benign.

Its counterpart, the diffuse type of the pleural mesothelioma, is highly malignant. It arises from the pleura but invades sub-pleurally. Microscopically it is histologically malignant and contains epithelial cells and mitotic figures. This type of tumor metastasizes. A third type is a localized tumor, well encapsulated, but which may contain some malignant cells. This should be classified as a mixed type of tumor, but it is benign in action.[11]

Mesotheliomas may occur in other areas of the body—the peritoneum,[12] the male and female urogenital tracts—the epididymus, the vas, the round ligament, Fallopian tube, canal of Nuck, and on the serosa of the uterus.[13, 14] We are not concerned with these tumors except they may possess in common with the fibrous and diffuse mesotheliomas of the pleura the property of producing hypoglycemia, which will be discussed later.

The incidence of pleural mesotheliomas has been difficult to evaluate because of the terminology and conflicting descriptions applied to these tumors prior to the work of Klemperer and Rabin and Stout and Murray. They have been called and described variously as fibromas, fibrosarcomas, myxosarcomas, leiomyosarcomas, giant sarcomas of the pleura, sarcoma-like tumors and endotheliomas. Saccone and Coblentz[15] reported 1.1 per thousand cases in 45,000 autopsies. Clagett et al collected 24 cases of fibrous mesotheliomas over a 20 year period at the Mayo Clinic in which surgery had been done.

Clagett's group of 24 cases, Benoit and Ackerman's[16] 17 cases, and Stout and Humadi's 18 cases revealed a mean age of approximately 50 years, with several cases occurring as early as age 12 years and as late as 70 years. On an average the number of females was slightly higher than the males.

Clinically these lesions are *first detected on casual x-ray examination* or fluoroscopic chest examination, all as part of routine general examinations. This, incidentally, has made it difficult to calculate the age of the tumor in these asympto-

matic cases unless one has a point of reference as in the present reported case where a fluoroscopic examination of the chest two years prior to the present one was entirely negative. However, in some reported instances the tumor has been known to have existed for as long as nine (9) years.[11]

Local chest symptoms, when present, are relatively rare. They are related mainly to mechanical interference in the chest itself. Thus there has been noted a sense of heaviness on the side of the lesion. When large enough the tumor may produce dyspnea and even a nonproductive cough. Occasionally blood streaked sputum is noted. Chest pain may occur when the dome of the fibrous tumor may attach itself to or rub on the pleura opposite to the point of attachment creating irritation and fibrous adhesion. Pleuritic pain may also be due to pressure on the ribs with erosion of the ribs. Distended neck veins may occur. Hawthorne and Probese[17] reported dysphagia and peripheral edema in a 40 year old woman. They attributed this to local pressure phenomena since these symptoms disappeared when a 1,500 gram fibroma of the pleura was removed from her right chest. Rarely they may cause cardiac failure by mechanical pressure.[18]

Physical signs in the chest itself may not be present—depending on the size of the tumor and also on the size and the character of the patient's chest in relation to the tumor. When present, an area of dullness may be percussed out. These signs may be obscured or confused by fluid, serous or hematogenous. While effusions generally occur with malignancies, they have occurred with benign mesotheliomas.[19, 20]

There was no weight loss noted with the benign fibrous mesotheliomas of the pleura. Some patients have had presenting complaints of chills and fever which have been present for varying lengths of time. The origin of these symptoms is obscure. It has been postulated in some instances that these may be due to areas of lung compression and pneumonitis. When generalized arthraligias are present, which are not uncommon with fibromas of the pleura, the fever may very well accompany these joint pains and swelling. While arthralgic symptoms have been noted with other pulmonary tumors,[21] Clagett found that 16 out of his 24 cases had symptoms referrable to joints and in many instances these were the complaints that brought the patient to the physician. The articular symptoms had been present for more than a year. The hands, ankles, wrists, elbows, and knees were involved with varying degrees of disability. Benoit and Ackerman also described these symptoms.

Clubbing of the fingers and toes was also seen in association with articular symptoms and also as a sign by itself. Where joint pains were present without associated clubbing of the fingers, it was difficult to distinguish the patient's condition from rheumatoid arthritis. When the associated benign fibrous mesothelioma of the pleura was removed there was a rapid disappearance of the articular and arthralgic symptoms followed by a slow regression and final disappearance of the clubbing in every case. These symptoms also seem to be dependent on the size of the tumor and were not seen unless the tumor weighed in the vicinity of 450 grams.

An unusual symptom associated with large slow growing tumors in various parts of the body, well encapsulated, having the microscopic appearance of fibromas, mesotheliomas or sarcomas of various types has been severe hypoglycemia. These tumors have been grouped as fibrogenic or mesodermal tumors associated with hypoglycemia and the syndrome of

"large non-pancreatic tumors with hypoglycemia" is being recognized as a clinical entity. Cases have been reported where patients have been admitted in a maniacal condition or in states of insulin shock with blood sugars as low as 10-12 per cent with the finding of these associated tumors. Injections of glucose have given temporary relief, but cure was only obtained by extirpation of the tumor.[22] A growing literature on this subject is available.[23, 24, 25, 26] The mechanism by which these tumors induce hypoglycemia is not definitely known.

Roentgenographically solitary pleural mesotheliomas of the pedunculated variety may be easy to recognize according to Berne and Heitzman.[27] They have stated that a pedunculated pleural mass has the ability to move about the pleural space freely if very little surface of the intrapleural mass is attached to either pleural surface. Because of the remarkable mobility of these tumors a striking change in the shape and density of the shadow they produce can occur on comparably projected and exposed roentgenograms. They report 2 cases in which a pre-operative diagnosis of a pedunculated tumor was made on this basis and proven at surgery. Occasionally, the localized tumor is huge and opacifies the major portion of a hemithorax simulating a massive effusion.[16] Occasionally pneumothorax may be helpful in delineating a localized tumor.

Other attempts at pre-operative diagnosis of the benign pleural fibroma have not been of great help. Cell block studies on aspirated chest fluid where present have been negative. Bronchoscopy has been of little use in these extrapleural tumors. Bronchial washes have yielded negative cytological studies. Compression of the bronchial tree, when present, does not necessarily tell us whether the distortion of the bronchial tree is due to intrapleural or extrapleural pressure. Angiocardiography may be of use in doubtful cases in attempting to eliminate pericardial and great vessel involvement and to distinguish these tumors from a variety of other intra-thoracic tumors.

The final diagnosis lies in the hands of the surgeon and the pathologist. At operation, where an encapsulated, lobulated tumor is found hanging from a pedicle usually from the visceral pleura, sometimes from the parietal pleura and rarely from an interlobar area, a clinical diagnosis of benign fibrous mesothelioma of the pleura can be made with relative certainty. Treatment is comparatively easy in these cases. The pedicle is tied off and the tumor is delivered through the thoracotomy opening. Grossly these tumors vary in size, some being reported as weighing as much as 5,000 grams. Microscopically the benign pleural fibromas will be composed of spindle shaped cells, areas of collagen tissue, areas of necrosis, and tumor cells of mesothelial origin which lack mitosis or any evidence of malignant change. Prognosis is, therefore, good.

Summary

1. Primary neoplasms of the pleura are divided into two main groups, one of benign solitary localized pedunculated growths, and the other a diffuse malignant type involving the entire pleura and associated with metastasis. The mixed encapsulated type of tumor usually acts as a benign fibroma.

2. Many of the cases of benign fibrous mesotheliomas of the pleura are asymptomatic and are picked up on routine chest x-rays or fluoroscopy.

3. A definitive pre-operative diagnosis of benign fibroma of the pleura may be difficult to make, but where an intrathoracic tumor is present associated with a history of chills, fever, migratory swell-

ing and pain in the joints, and clubbing of the fingers, the clinician should be aware of and consider the possibility of localized fibrous mesothelioma.

4. X-rays of the chest taken with the patient changing his position may help diagnose a shifting pedunculated tumor.

5. The association of hypoglycemia and fibrogenic mesotheliomas in the chest, or elsewhere in the body, is stressed as a finding worthy of the clinician's interest.

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Chromosomal Mosaicism in Gonadal Dysgenesis

Report of a Case

HANS-DIETER TAUBERT, M.D., ERICA F. MOSZKOWSKI, M.D.*

THE ENTITY of primary amenorrhea, short stature, webbing of the neck, and cubitus valgus, has become known as Turner's syndrome. It is often associated with multiple congenital anomalies, particularly those of the cardiovascular system. The gamut of this syndrome may range from the classical Turner's syndrome with severe defects to the so-called pure gonadal dysgenesis,[14] where the pathology is limited to the gonads. The common pathognomonic denominator is the absence of germ cells. The ovaries consist merely of streaks of stromal tissue with no ova being present. Ford[3] recognized in 1959 that this syndrome is characterized by the absence of one X chromosome, except for rare cases.[14] Of particular theoretical and practical interest are those cases where 2 stem-lines of cells are present. One contains the normal modal number of chromosomes, while the other is hypoploid due to the lack of one X chromosome. Chromosomal mosaicism with XO/XX configuration of the sex chromosomes is next to XO the most common finding in gonadal dysgenesis. Miller was recently able to review over 25 reported cases.[1, 3, 7, 8, 10, 11, 12, 17, 18] It is the purpose of this paper to report and discuss another case of gonadal dysgenesis with chromosomal mosaicism.

Case Report

C. J., U. H. #29-17-32. This 15-year-old Negro girl was first seen in the Gynecologic Endocrine Clinic on June 30, 1964. Her chief complaint was stunted growth, primary amenorrhea, and minimal development of the secondary sex characteristics. Her height was 142.5 cm. She weighed 107 lbs.; the span was 150 cm. On general inspection the patient had a short neck with a trace of webbing. The chest was shield-like and the nipples wide-spaced, small and flat. There was no areolar pigmentation. Axillary and pubic hair was sparse (Table 1, Fig. 1). Her hands were remarkably long, with spidery fingers, and hyperextensible joints. The palms were spoon-shaped and could not be completely flattened. The fourth toe on the right foot was short.

Table 1—Malformations and Laboratory Data

A. EXTERNAL MALFORMATIONS	
Webbing of the neck	trace
Low implantation of the hair	present
Short fourth metatarsal bone	present
Epicanthic folds	present
Cubitus valgus	present
Arachnodactyly	present
Spoon-shaped palms	present
Shield-like chest with wide spaced nipples	present
Pigmented naevi	absent
B. RADIOLOGIC MALFORMATIONS	
Sella turcica	normal
Bone age	normal
Osteoporosis	absent
C. FAMILY	
Number in sibship	⅓
Age of mother at birth	29
Age of father at birth	33
Malformations in family	absent
Consanguinity in family	absent
X-ray, viral disease, etc. around conception	absent
D. LABORATORY DATA	
Vaginal cytology	no estrogen effect
Sex-chromatin, rt. buccal cavity	24% positive
Sex-chromatin, lt. buccal cavity	18% positive
"Drumsticks"	53/1000
Sex-chromosome configuration	XO/XX
Chromosome number	44-0
	45-34 (51.4%)
	46-32 (48.6%)
	47-0
Total urinary gonadotrophins	more than 50 mu/24 hrs.
17-ketosteroid excretion	2 mg./24 hrs.
Protein-bound iodine	7.7 mcg%
Xga Proposita	Xga (+)
Mother	Xga (+)
Sister	Xga (+)
Dermatoglyphics	compatible

* From the University of Maryland School of Medicine, Department of Obstetrics and Gynecology.

Fig. 1

No cardiac anomalies were found. The patient had poor vision in one eye due to strabismus. Color vision was normal.

Examination with the patient under anesthesia disclosed a small cervix, atrophic labia, and an intact hymen. There was no stimulation of the vaginal mucosa. Adnexal structures could not be palpated.

Laboratory Data: On August 5, 1964, 26% of the buccal mucosal cells were positive for sex-chromatin. On March 2, 1965, a repeat examination of both the right and left buccal mucosa showed 24% chromatin-positive cells on the right including 6% very small ones. The smear on the left revealed the presence of Barr bodies in 18% of the cells with 4% being small ones. Fifty-three polymorphonuclear leukocytes per 1,000 were found to be positive for the presence of "drum sticks."

Vaginal cytology from June 30, 1964, did not show any evidence of estrogenic stimulation.

Chromosomal Analysis: White blood cells were cultured by a modification of the method of Moorhead.[13] Sixty-six cells were suitable for analysis. Thirty-two showed the normal modal number of 46 chromosomes. The remaining 34 cells lacked one of the large submetacentric chromosomes of group 6-12 (Denver Classification)[2] or C (Patau).[15] This was interpreted as mosaicism of the X-chromosomes with the following two stem-lines: 45 (XO)/46 (XX).

Gonadotrophin excretion: The 24-hour value for total urinary gonadotrophins exceeded 50 mouse-units (more than adult normal).

The 17-ketosteroids were 2 mg./24 hour urine.

X-ray studies: The sella turcica was normal. The bone age was compatible with 14.5 years. Osteoporosis was not evident.

Dermatolglyphics:[16] The axial triradius was in t' position. The adt-angle exceeded 50°. All digits with the exception of digits V sinister showed ulnar loops. The latter had a whirl. The total digital ridge count was 144; the ridge count was 144; the ridge count between triradius *a* and *b* was 58. For comparison the same data were obtained from her younger sister: Axial triradius t, adt-angle 45°, digital ridge count 132 (normal range); a-b ridge count 45 (normal); whirls on digitus I and II right and left, and digitus III on the right. The remaining finger had ulnar loops.

Comment

Lack of germ cells in the gonads and loss of one X-chromosome in early development are the notable features of this entity. It appears that segregation and

migration of the primitive germ cells from the hind-gut to the germinal ridge depends upon the presence of 2 X-chromosomes.[7] Embryonal cells do not show many chromocenters prior to day 16-18 of development. After segregation of the primitive germ cells, however, one of them becomes genetically inactive and as such the chromocenter or the Barr body.[6] Failure of the primitive germ cells to arrive at the germinal ridge seems to arrest the gonad at the stage of the primitive, indifferent medulla.[7] Any other cause which will prevent this migration will have the same result in gonadal development. This explains chromatin-positive cases of gonadal dysgenesis with normal 46/XX karyotype.

In a case as ours one has to assume that the germ cells descended from a stem-line with the karyotype 45/XO. Examination of more than one tissue could possibly have uncovered an even more complex system of multiple mosaicism. Differences in the percentages of chromatin-positive cells from either buccal mucosa have been observed.[6]

The observed difference of 18% and 24% respectively cannot be considered significant in this context.

Pre-zygotic maternal or paternal non-disjunction during the first or second meiotic division is thought to be the cause for aneuploid states such as gonadal dysgenesis, Klinefelter's syndrome, autosomal trisomies, *et cetera.* In contrast, chromosomal mosaics are believed to originate from faulty division of the zygote.[8 & 9] Mitotic non-disjunction or loss of an X-chromosome due to anaphase lag have been postulated as possible mechanisms.

The maternal or paternal origin of the X-chromosome in such individual can be studied by investigating sex linked traits. Color blindness, glucose-6-phosphate-dehydrogenase deficiency, and Duchenne's atrophy were not applicable in the case presented. Determination of the Xg blood group can be most helpful in this aspect, since presence of the Xg^a (+) allele assures dominance of the trait.[4-9] Since all accessible members of the family were Xg^a (+), no further information could be gained in this aspect.

Mitotic non-disjunction at the first cleavage division would have resulted in an X/XXX embryo. The triple-X stem-line would be recognizable by virtue of the supernumerary chromosome. A number of buccal smear cells would contain 2 Barr bodies, representing 2 inactivated X-chromosomes. The most likely explanation is that an XX zygote lost one of the sex chromosomes during anaphase at the first cleavage division, resulting in equal proportions of XO/XX cells as observed. This cell type could also have originated in mitotic non-disjunction at the second cleavage division. However, one would have to assume that the zygote was originally XO, and the proportion between the 2 cell lines should not be even.

Dermatoglyphic examinations have been used successfully in characterizing various congenital anomalies. The configuration of the dermal ridges are laid down at a very early stage of development, around the third month.[16] The propositus showed some of the typical findings: t' position of the axial triradius, increased adt-angle, and an increased dermal ridge count.

Treatment

The patient was placed on estrogen-substitution therapy with the aim to induce development of the secondary sex characteristics, and hopefully to induce further growth. Figure 2 attests to the effectiveness of this regimen as to the

Fig. 2

former, e.g., after 6 months of 0.2 mg. of stilbestrol, q.d. No further growth occurred. Cyclic therapy will be instituted for induction of menstrual cycles as soon as the development of the genitalia is sufficient.

Summary

A 15-year-old-Negro girl presented with stunted growth, primary amenorrhea, and lacking development of the secondary sex characteristics. Chromosomal analysis confirmed the clinical impression of gonadal dysgenesis. The karyotype presented as a mosaic containing two cell lines: 45 (XO)/46 (XX). Estrogenic replacement therapy resulted in satisfactory development of the secondary sex characteristics. The origin of the chromosomal defect was discussed.

Acknowledgment

The help of Miss E. Jahn of the Baltimore Rh-Typing Laboratory in obtaining the Xg-Typing is gratefully acknowledged.

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Book Reviews

A University Is Born, By Margaret Byrnside, M.D. Union, West Virginia, 1965.

"Let us not lightly cast aside things that belong to the past, for only with the past can we weave the fabric of the future." Thus wrote Anatole France, and we present his statement in defense of the value of historical considerations in these utilitarian times.

The author's obstetrical background undoubtedly influenced her selection of the title. She characterizes her work as a short genealogical sketch of the University of Maryland and not a definitive history; and states her threefold purpose as follows:

"First—to show how the small unit of the Medical College of Maryland, through mergers and affiliations, finally, after more than 100 years grew into a true University.

"Second—to bring the early fathers of the institution into present day perspective, to learn to know them, and to acclaim their work.

"Third—to stimulate interest among the present Faculties and Students of the University of Maryland in their heritage."

The first seven chapters depict the "embryology" of the future university. The engaging and detailed story continues to evolve in the final eleven chapters, each covering a decade through 1920; while the epilogue brings the reader down to date with a brief outline of significant events. Nine appendices present facsimilies of the important legal acts which were basic in the evolution of the university; and also descriptions of the various institutions which were combined to form the University of Maryland. There are 215 text pages, and the appendices occupy 80 pages. There is an adequate combined index of subjects and personal names. There are 31 unnumbered pages of illustrations placed together near the middle of the text. The binding is attractive and the text type is clear.

The author's informal style facilitates easy reading so that the reader becomes absorbed in the narrative. For her fresh viewpoint, and for the literary progeny born of the painstaking travail of extensive personal research, this reader is deeply grateful to the author; and it is his belief that she, a most loyal alumna of the University of Maryland School of Medicine, has performed a real service for her Alma Mater and for the entire university. She has accomplished her "triplet" purpose admirably. The book is warmly recommended to all interested in the University of Maryland.

JOHN E. SAVAGE, M.D.

Obstetrics. 13th Edition by J. P. Greenhill. 1245 pp. Illus. W. B. Saunders, Philadelphia. 1965. $22.00

The Thirteenth Edition of *Obstetrics* by J. P. Greenhill, published by the Saunders Company, is a comprehensive volume of 1245 pages. Included therein are 1296 illustrations, 54 of which are in color. This aspect of the book has to be classified as magnificent, and is indeed one of the highlights.

Dr. Greenhill wisely selected 32 outstanding world authorities to help prepare special chapters of this edition. These men have contributed excellent material in order to modernize current trends and thoughts in the specialty.

Noteworthy are the dynamic chapters on erythroblastosis fetalis, pathology of labor, human cytogenetics, fetal electrocardiography, and obstetrical anesthesia.

Two aspects of the book which do not keep up with its general excellence are those which pertain to the antibiotics and the modern era of obstetrics and the teratogens as they are known today.

As in the past, the bibliography is excellent, giving the reader easy access to subject material. The language used throughout the book is clear, concise, and to the point.

In summary, it can be stated that this is an all-inclusive book that encompasses the spirit of the great Joseph B. DeLee, who wrote the original edition. It is definitely recommended for medical students.

NORMAN LEVIN

Diseases of the Newborn. 2nd Ed. By Alexander J. Schaffer, M.D. and Milton Markowitz, M.D. 1023 pp. Illus. W. B. Saunders Co., Philadelphia. 1965. $20.00.

This second edition of Dr. Alexander J. Schaffer's *Diseases of the Newborn* is devoted to man's first 30 days of extra uterine life. The book includes a section on neonatal cardiology by Dr. Milton Markowitz and a chapter on fluid and electrolytes by Dr. Lawrence Finberg.

It is an excellent reference by a practitioner for use by those interested in pediatrics and general family medicine. It is of particular value for pediatric interns and residents as a basic source of information and should prove to be an essential part of their library.

The direct, flowing style is easy to read and yet presents a massive amount of material in a comparatively small space. Topics are sub-titled in bold print as to physical and laboratory findings, diagnostic criteria, etiology, treatment, and prognosis. Example cases are used generously and the illustrations are better than average. Indexing is complete and can be used accurately and quickly. Printing and binding are the best.

The section dealing with cardiology is outstanding in its content and practical usage in diagnosis and treatment. Other chapters of particular note include those on gastrointestinal and urinary tract disorders. The appendices are unusual and valuable in their presentation in outline form of protocols for nursery care of both full term and low birth weight infants; newborn drugs and doses, resuscitation of the newborn, and for management of the newborns with suspected erythoblastosis.

Fluid balance by Dr. Finberg was unfortunately short and as a result was generalized. Future editions will no doubt find this section expanded and will include more information on the neonatal surgical patient and his special problems.

Another topic to be anticipated is the management of the caloric needs of the newborn, be they normal or low birth weight, stressed or stable.

In summary, this monograph is worth the purchase price and will become more valuable daily to those who buy it.

DONALD E. KNICKERBOCKER, M.D.
Chief Resident, In-Patient and Nursery Service, University Hospital

Dean's LETTER

Dear Members of the Medical Alumni and Friends:

It is sometimes helpful and necessary to state in an oversimplified form the facts as they pertain to medical education. We believe they are as follows:

1. The four years of education in the medical school are primarily focused on the student acquiring factual information and habits of study.
2. The application of the fund of knowledge in the basic medical sciences to the patient and the recognition of normal and abnormal findings in the patient and their management.
3. The realization that achievement that justifies an M.D. degree is only the base for the building of professional excellence.
4. That judgment and skill must be obtained through continuing education, practice, and experience.
5. The choice of a field of medical practice is the right and responsibility of the individual involved.
6. The preparation for the field of practice takes place during the internship and residency programs after the M.D. degree has been awarded.
7. The medical school's responsibility in the individual's choice of a field of medical practice is limited to acquainting the individual with the opportunities available and making available advice if the student requests it.

Sincerely,

William S. Stone, M.D.
Dean

Dr. Richard F. Mayer

Appointed to Neurology Faculty

Dr. William S. Stone, Dean of the School of Medicine, and Dr. Erland Nelson, professor and head, department of neurology, announce the appointment of Dr. Richard F. Mayer as associate professor of neurology effective November 1, 1965. Dr. Mayer received his doctorate at the University of Buffalo School of Medicine in 1954. After medical internship at the Boston City Hospital, he received his training in neurology at the Mayo Foundation, Rochester, Minnesota, and the Massachusetts General Hospital, Boston. From 1957 to 1958 he was assistant in research at The National Hospital, Queen Square, London, and during 1960-61, research and teaching fellow in neurology at the Harvard Neurological Unit, Boston City Hospital.

Dr. Mayer served with the Navy as neurologist at the U. S. Naval Hospital, Chelsea, Massachusetts in 1959-1960. He has been a member of the faculty of the Harvard Medical School from 1961 until the present and has served as associate visiting physician for neurology at the Boston City Hospital. In addition, he has acted as director of the Electroencephalographic Laboratory, Boston City Hospital since 1964.

Dr. Mayer is well known for his significant contributions in the areas of peripheral nerve and muscle physiology and will continue an active program of clinical and experimental research in these areas while at the University of Maryland.

Dr. Mayer has been a diplomate of the American Board of Psychiatry and Neurology since 1961 and is a fellow of the American Academy of Neurology. His appointment brings to 7 the number of full-time neurologists at the University of Maryland, making this newest department of the School of Medicine one of the largest and most versatile neurological groups in the area.

Faculty NOTES

Professor Figge Architect of Unique Cadaver Law

Donation of bodies to the Anatomy Board of Maryland is currently a well functioning program according to Dr. Frank H. J. Figge, chairman of the Anatomical Board and professor of anatomy at the School of Medicine. Some 800 or more individuals in the State of Maryland have taken the necessary steps according to a recently enacted Maryland law which would make their bodies available after death to one of the two Medical Schools in the State of Maryland.

Under a Maryland law passed in 1960, an individual by executing a donation form can direct that his body be turned over to the Anatomy Board. Donated bodies are then given free transportation from the place of death provided it is within the State. Free embalming and free cremation are provided. Donors are supplied with a wallet card giving directions for notifying the Anatomy Board in the event of death.

Dr. Figge explained that at least 6,000 donations would be necessary in Maryland in order to supply the two Medical Schools with enough bodies for minimum dissection requirements. In the past few years the total number of unclaimed cadavers has declined and Dr. Figge has indicated the necessity for such remedial legislation in order to insure the supply of dissection material for oncoming classes of medical students.

Department of Medicine

Dr. Edmund G. Beacham, assistant professor of medicine and chief of the tuberculosis division of the Baltimore City Hospitals, was recently the recipient of the Governor's award for promotion of the employment of the handicapped. In addition to the State award, Dr. Beacham received a citation for meritorious service from the President's committee on employment of the handicapped.

After receiving his medical training and serving as a military surgeon, Dr. Beacham became assistant chief and later chief of the Tuberculosis Division of the Baltimore City Hospitals. Since that time, he has served on the staffs of both the Johns Hopkins and the University of Maryland Schools of Medicine.

Department of Pathology

Dr. Harlan I. Firminger, professor of pathology and chairman of the department of pathology at the School of Medicine, has assumed the editorial responsibility for the publication of the *Fascicles of the Atlas of Tumor Pathology*. Dr. Firminger serves as editor for the Universities Associated for Research and Education in Pathology.

Pathologists Present Important Paper at Society for Experimental Biology

Dr. Harlan I. Firminger, professor and head of the Department of Pathology, and Dr. Walter F. Oster, a recent chief resident in the department, presented a paper entitled "Chloramphenicol Inhibition of Hepatic Carcinogenesis in the Rat," on the occasion of the annual meeting of the society on April 14, 1966 at Atlantic City.

Doctors Firminger and Oster revealed that chloramphenicol apparently by blocking protein synthesis was able to prevent induced cancer in the liver of rats otherwise highly susceptible in the absence of the chloramphenicol treatment.

Julius Friedenwald Memorial Lecture

Dr. Nicholas C. Hightower, who is director of clinical research at Scott and White Clinic, Temple, Texas, spoke on "Esophageal Functions in Health and Disease" on the occasion of the annual lecture held Tuesday, April 5th in Gordon Wilson Hall, University Hospital. The lectureship was established in 1942 in honor of the late Dr. Julius Friedenwald, long a member of the medical school faculty.

The Medical School Applicant Admission Policies—A Faculty Problem

DIETRICH C. SMITH, Ph.D.*

All medical schools are acutely aware of the responsibilities they bear in selecting those students who as physicians will be a credit to their chosen profession and who will be able to meet the increasing emotional and intellectual demands of the medical curriculum. In addition they are constantly reminded of the increasing need for more and better doctors. In Maryland for instance it is estimated that by 1975 at least 240 new physicians should be graduated that year by the local medical schools to meet the growing needs of the state for adequate medical care. To understand what this means it should be noted that in 1965 these two schools graduated about 160 students, 80 short of the projected 10 year goal.

For the past 10 years the author has served as chairman of the Committee on Admissions of the University of Maryland School of Medicine. During this time the committee reviewed over 5,000 applications from which they selected 500 students. Inevitably this process could not go on without certain guidelines and it is the purpose of this article to try and explain by what route the committee came to its decisions during his period. It should be emphasized at the beginning that the answers will not always be clear cut, that there is no rigid system, no computer-like techniques by which its will was manifested. It should also be stressed that what is said here applies to procedures used in the past and is in no way intended to outline the official policy, if such exists, in the future. The author has no authority to set such a policy, let alone define it. Time and circumstances change and selection procedures undergo the inevitable processes of evolution.

First of all it must be clearly borne in mind that no matter how estimable a young man may be, no matter what his family background or his dedication to a life of service devoted to the benefit of his fellow man, if he cannot pass the first two years of the medical curriculum he will never practice medicine. If a student falls by the wayside the committee inevitably feels that it has failed and in failing has denied someone who is possibly a better qualified person a place in the school.

The problem facing any admission committee is how to maintain good relations with the general public and with the alumni and to select from among the several hundred applicants it must deal with each year those who will best meet the needs of the community for medical care and to satisfy the faculty as to their competency to become physicians. No doubt their ultimate decisions seem capricious to many, especially those who have been denied admission or to a faculty member who feels that some of those in his charge are not up to mastering the material in his subject. The latter frequently complain that the standards are too low while disappointed alumni who have sponsored their own children or the children of their friends feel the committee has set up standards which are impossibly high and as a consequence deny a place in the profession to many a meritorious, worthy and estimable young man.

It is therefore hoped that a discussion of past admission procedures may shed some light and understanding on how the process of selection occurs. The decision to reject or accept a student is based largely on his academic record, his Medical College Ad-

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mission test scores, his letters of recommendation and the impression he makes on interview. Each one of these criteria will be discussed in some detail.

Academic Record. By this is meant the record which the applicant has made during the time spent in college, usually, a period of four years but on occasion three and rarely less. This record is the single most important consideration which enters into the final verdict. It is expressed quantitively as the grade point average or more simply as the GPA. At the Medical School of the University of Maryland during the period, 1955 to 1965, this was based on a scale of four, where A = 4, B = 3, C = 2, D = 1 and a condition or a failure = 0. The GPA is calculated from the transcript or transcripts which the applicant submits when he applies. Since there are sometimes slight differences between schools as to how they calculate the GPA there may be a discrepancy between the final average arrived at by the applicant and by the medical school. These differences however are minor and need not concern us here. In making these calculations the number of grade points for each course are multiplied by the number of semester hours or credits for each course and the total divided by the total number of credits or semester hours accumulated by the applicant to date. Thus a student who has obtained 90 credits and 280 grade points has a GPA of 3.11.

Potential applicants of course want to know just what the committee expected in the way of grade points. It was not easy to answer this question as there is no sharply defined cut-off point. The mean GPA for the class entering the Medical School of the University of Maryland in September 1965 (Class of 1969) was 2.83 for residents and 2.93 for non-residents. This figure will probably serve as good a bench mark as any for what was expected although of course it is obvious that if the mean is approximately 3.0 there must be a substantial number of accepted students below this mean as well as a considerable number above. A comparison between science and non-science grades can also be helpful. The applicant may have an overall GPA of 2.8 but his science GPA is considerably below this figure. If so he is a poor risk for medical school since if he is not capable of good work in undergraduate courses in science it is extremely doubtful if he can pass the science courses of the medical curriculum where the standards are usually higher and the grading more rigid. This is not necessarily true of all colleges and no doubt this statement will be disputed vigorously by some undergraduate instructors.

Was his performance a consistent one? Was his GPA approximately the same for each of the three (or four) years of college or did he start poorly and show progressive and steady improvement? If so the overall average might be a bit lower than the committee would like but the applicant has demonstrated his ability to do high level work once he has set his mind to it. Conversly did he start off well but gradually slipped as he went on? If so, why? Was it because he spent more and more time in extra-curricular or social activities, because he had to take on outside work to stay in school or because he was beset that year with personal problems of an emotional nature? Certainly the committee is better able to interpret the GPA if it has knowledge of these circumstances.

The committee was also interested in the undergraduate college attended. Some colleges are more selective than others in admitting students and so can maintain higher standards of excellence. Experience over a period of years gives some idea of where a college stands in this respect. However times change and academic standards are on the rise everywhere. It is risky to assume in this period of flux that what was true of an institution 10 years ago is still true today and therefore a certain measure of restraint and caution should enter into such judgments. Experience has shown that it is not possible to set up a precise or quantitative system of evaluation.

When all the ponderables as well as the imponderables are taken into consideration the GPA is still considered the best pre-

dictor for performance in medical school. It is perhaps unfortunate in one way that this is so as it serves to place a great deal of emphasis on grades and focuses the student's attention primarily on this aspect of his studies rather than on a mastery of the course contents themselves. Admittedly there should be no conflict between these two objectives but unfortunately students oftentimes think there is in spite of he protestations of faculty members to the contrary.

Medical College Admission Test. Virtually every applicant to any medical school in the United States will take this test, familiarly known as the MCAT or more simply as the M-cat. It is given by a national testing agency each fall and spring to those students who expect to apply to some medical school within the next few months. Most medical schools prefer to have applicants take the test during the spring of their junior year. All applicants to Medical School of the University of Maryland over the past 10 years have been required to take this test without exception and no application was considered until the test scores were in the committee's hands. Furthermore no applicant could take the test later than the October preceding the year of desired admission.

By agreement among themselves medical schools do not release the scores of applicants although they are permitted to tell the applicant whether or not he has met the standards of his particular school and how he stands in comparison to other applicants to this school and to other schools. The applicant may repeat the test one year later or sooner if he can persuade some medical school to give him permission to do so. Substantial improvement on repetition of the test seldom occurs.

The MCAT is a particularly useful tool for admission committees since it gives an objective measure by which all those who took the test at that time can be compared with one another. Since there are usually about 8,000 students in each test group the sampling is reasonably broad. Thus applicant A from School X can be compared with applicant B from School Y and hopefully some measure of their relative ability will emerge. From time to time the testing agency compiles the mean scores of all the students in any one college who have taken the test over a stipulated period. This compilation can be used as a yardstick to compare the performances of various colleges and to compare the performance of a single student with his peers in the same college. It therefore becomes a useful check on the significance of the GPA from any one school.

The MCAT is divided into four categories: verbal, quantitative, general information, and science and the applicant is scored separately in each category. The scale ranges from a low of 200 to a high of 800. Two-thirds of those taking the test will score between 450 and 550 and approximately one-half will be above 500. Obviously a score of over 550 places the individual in a superior group for that category while a score below 450 would be a matter for concern especially if it is in verbal or science.

Scores are not necessarily uniform in all categories and different schools will use the scores differently, some insisting on a minimum score in all areas, or in the science area alone or a combination of science and quantitative. Others adopt a less rigid attitude and are not too much concerned about a low score in one area providing other factors check out.

The correlation between MCAT scores, especially in science, and the grades obtained during the first two years of medical school are quite good as is the correlation with the scores on the National Board Examination, Part I. The same cannot be said however for the correlation between MCAT scores and the grades in the clinical years or scores on the National Board, Part II. However again it must be borne in mind that a student must pass the first two years of medical school in order to have an opportunity to develop his clinical skills.

Objective multiple choice tests have been under considerable fire from certain academic quarters and there are many who

have doubts as to their validity and significance. There are those who are equally vehement in their defense. However there is no doubt they serve a useful purpose in the comparative evaluation of thousands of students from diverse backgrounds and with varying abilities. There seems to be little doubt that such tests are here to stay and that their use will spread rather than diminish. Rightly or wrongly under the selection systems which now operate for most colleges and professional schools these tests play an important role. Furthermore a student's success in professional school will be determined to a large extent on how well he handles such tests since he must take them in one form or another as he advances through his professional education.

In evaluating an applicant his MCAT scores are of course compared to his GPA. and sometimes such comparison can be revealing. How does one interpret a low science score, say in the 400's, in an individual who has a GPA of 3 or better in his science subjects? Is he an over-achiever in this area or are the standards at his school a bit more relaxed than elsewhere? Similarly a low GPA and a high MCAT, say over 550 in all categories, demands some explanation. Presumably such an individual did not live up to his full academic potential. Was it because he became too deply involved in extra-curricular activities, was it because he was indifferent to grades or was it because he had to work 20 or 30 hours a week to stay in school? Would such an individual realize his full potential in a medical school where the academic environment might very well stimulate him to greater efforts and where financial assistance was more readily available. On the other hand would his poor college record mean he had not learned how to study, a handicap that might very well prove fatal in medical school.

The Interview. Probably no other phase of the admission process is approached by the applicant with so much trepidation and anxiety as is the interview. Here is a face to face confrontation with those whose decision will be crucial in deciding his future course in life. No wonder the candidate looks upon the experience as an ordeal. Interviewers do their best to put the applicant at ease and usually succeed. Many applicants will tell you that after the initial tension had worn off they actually enjoyed the experience. The interviewer too develops a certain humility as he comes to realize more and more that it is difficult to make a value judgement about a person on the basis of a 20 minute conversation.

So why then go to all this trouble? Probably members of admission committees spend more time on this phase of their work than on any other. However it has been aptly said that not many men will select a wife or a secretary without first speaking to her. Similarly admission committees are reluctant to take any one sight unseen.

Nevertheless the interview does serve a useful purpose. Occasionally an interview will reveal someone who is obviously unfitted temperamentally or intellectually for medical school. However it is probable that the applicant benefits the most as it gives him a chance to familiarize himself with the school, to observe the classrooms and the laboratories and to ask questions. It also gives the interviewer a chance to obtain an explanation for anything in the application which he thinks needs explaining such as why did he do poorly in the second semester of his second year, why did he transfer from one school to another, why was he dropped from school and why did he voluntarily withdraw for two years. Sometimes the answers to these questions can mean the difference between a favorable and unfavorable decision.

Probably in the course of a year between four and five hundred applicants were interviewed at the Medical School of the University of Maryland, at least 90% of them on campus. In some schools, but not all, interviewers will go to the applicant. This is particularly true for a college which will have a fairly large number of applicants applying to the school in question. The Medical School of the University of Maryland, however, has not done this in

the past. However they have used interviewers in distant places for applicants will come from all over the United States and it will happen that the geographical separation is too great to be overcome. If such an applicant looks promising he will be asked to seek an interview with the nearest local representative. Usually this regional representative is an alumnus of the school personally well known to some member of the committee. These men can be very helpful indeed and they put in many long hours of work for which their only reward is the heartfelt thanks of the committee plus the knowledge that they have helped to further the cause of medical education.

How should the candidate approach the interview? Hopefully in as relaxed and composed frame of mind as is possible under the circumstances. A display of a normal amount of anxiety however is not necessarily detrimental and might even be advantageous. An interviewer becomes suspicious of a candidate who appears to be too blasé.

It is helpful if the applicant comes prepared with a few question of his own. He need not be afraid to reveal his ignorance as no one expects him to be sophisticated about medical education. It is perfectly natural, in fact desirable, for him to want to know something about the school's curriculum, about its clinical facilities, what is its drop-out rate, what provisions are made for financial aid to students and many other questions. In asking them the applicant helps to establish a rapport between himself and the interviewer which makes everything run more smoothly.

Finally a word or two about personal appearance. The applicant should be dressed neatly in keeping with the standards of the medical school he aspires to enter. His dress should be such as to inspire respect and confidence. Obviously he should be courteous without being obsequious and cultivate a manner that is in keeping with the traditions, the amenities and the dignity of the medical profession.

Letters of Recommendation. Every committee expects an applicant to produce letters of recommendation from those who have had some academic contact with him while in college. The more extensive this contact the better. Letters from friends of the family, the family doctor, the clergy, the local banker are not encouraged and are seldom given much weight if received.

Most liberal arts colleges have today a premedical advisory committee with a chairman who usually serves as premedical advisor for the college. This committee is made up of those instructors who teach premedical courses and therefore has a high proportion of science teachers. However it is expected that the non-science areas will also be represented. The premedical advisor may or may not be a member of the Dean's staff. If not it is usually someone from the faculty who has had considerable experience in this field. It is his job to coordinate the activities of the committee and usually to write the letters based on the committee's recommendations. In many instances the chairman of the premedical advisory committee works closely with the chairman of the admission committee of the medical school, especially if that particular college annually has a large number of applicants to the medical school in question. Such a relationship can be extremely helpful and often plays an important role in the admission process.

Where a special committee does not exist then the applicant is forced to fall back on individual letters from faculty members who will speak for him. Such letters are not always given the same weight as a committee recommendation as they represent just one man's opinion and are not a consensus of several experienced men. Further the admission committee knows full well that an applicant will select those members of the faculty who in all probability will speak well of him. However the committee does often learn to respect the judgment of some one individual, particularly those who write frequently and are jealous of their reputation for making impartial and objective judgments.

While the decision to admit or not to admit an applicant is largely based on the

GPA; MCAT, interviews and letters of recommendation there are other factors which play a part as well and in some individual cases may be crucial. Perhaps the most important of these is the residency of the applicant. Since not all qualified applicants can be accepted some sort of a screening process is inevitable if the committee is to keep its workload at a reasonable level. Since the Medical School of the University of Maryland is a state supported school preference is given to residents of the state and every resident regardless of his qualifications is given careful and thorough consideration. If he is qualified he is accepted and during the past 10 years no Maryland applicant has been rejected because there was no place for him. This unfortunately cannot be said of non-residents.

In the same category as residents are placed the sons and daughters of alumni of the university. While the term alumni has never been strictly defined by the committee it certainly includes anyone who has received a degree from any school or college of the University of Maryland. This applies doubly so to sons and daughters of alumni of the medical school. While all "legacies" receive special attention regardless of residency they are expected to meet the minimum qualifications before being accepted the same as anyone else.

So far as non-residents are concerned preliminary screening cannot be avoided. Those selected for further consideration and invited to come in for an interview or to be interviewed by a local representative are those with promising MCAT scores and high GPA's. The committee is also not unaware of geography and a promising applicant from an area which does not send many applicants to the school will probably receive more serious consideration than someone from a contiguous state. This is not to say that candidates from these areas are ruled out. Quite the contrary, because of the fact that their number is large they are usually well represented in the student body.

The committee is also interested in having as broad a representation from the colleges as possible, especially those colleges which have a high reputation in the academic community. Applicants who fall into this category with a good academic record and high MCAT scores are actively sought out by several schools since they usually apply to more than one. Competition is therefore keen for these students and as a consequence the ratio of those students who actually matriculate at Maryland to those who are sent offers is low. In such cases the decision may turn on the prestige of the school, the possibility of a scholarship or financial aid and personal preferences in regard to geographic location or a desire to work with some distinguished member of the faculty.

In state supported schools there should be no discrimination on the basis of sex, religion, or race and such is most emphatically the case at Maryland. As to sex there is a widespread belief that prejudice exists towards women. This may or may not be true in some schools but it is definitely not the case at Maryland. Over the years the percentage of women in the student body has stayed constant at about 8%. Actually the number of offers sent to women in relation to the number of applicants is somewhat higher than it is for men. This is probably due to the fact the choice of medicine as a career is taken far more seriously by women and their motivation as a group somewhat stronger. A woman does not enter medicine without careful consideration of all aspects of the situation and if she does so decide she usually will make a more determined effort to qualify.

As for race and religion, as mentioned before, they play no part in the admission process. The Medical School of the University of Maryland does not even inquire into these factors.

The question often comes up concerning the importance of extra-curricular activities. It is certainly not expected that every successful applicant will be a campus leader, although it of course helps his chances if he is and at the same time has a good record. However being president of his class, a member of the varsity football squad,

editor of the yearbook does not in itself insure admission. The premedical curriculum is a demanding one, loaded as it is with science courses, and there is not much time for outside activities. If too much involvement in such efforts is jeopardizing the student's academic standing he would be well advised to cut down the load or eliminate it entirely. By and large if an applicant shows evidence of having normal social relations with his peers and a reasonable interest in the world around him most admission committees will be satisfied.

Finally the question of age. It is rare indeed for an individual over 30 to be accepted and applicants from this group are discouraged even though they be residents of Maryland. As he advances beyond 30 his chances dwindle rapidly and it is almost unheard of to take anyone over 35. Experience has shown that older applicants are not as good an academic risk as the younger ones, although there are occasional exceptions. In addition it is perfectly obvious that the number of years of effective service to the community is statistically less the older an applicant may be.

Hopefully this summary will help potential applicants to medical school and their parents to understand some of the problems facing an admission committee and what the applicant may expect. It is in this spirit that this article is written. Certainly medicine is looking for bright, alert, honest and dedicated young people to enter its ranks. Competition between professional schools for such individuals is keen and medical schools must make it clear they welcome such applications. An applicant does not necessarily have to be a *Phi Beta Kappa* or to graduate *cum laude* to be in the running. On the other hand it is also hoped that aspiring applicants who obviously do not measure up adopt a realistic attitude about their chances and if they are rejected to accept the decisions philosophically and turn their efforts towards some other goal.

DEPARTMENT
OF
OBSTETRICS & GYNECOLOGY

ANNUAL REPORT

Summary of Admissions, Discharges

and

Perinatal Mortality

University Hospital

January 1, 1964 through December 31, 1964

UNIVERSITY HOSPITAL

Baltimore, Maryland 21201

Obstetrical Report for the University Hospital

For Period January 1, 1964 through December 31, 1964

I. SUMMARY

	White	Non-White	Total
Total Discharges	932	2099	3031
Total Deliveries	870	1972	2842
Multiple Pregnancies			
Twins (No. of sets)	5	27	32
By Cesarean section	0	1	1
Triplets (No. of sets)	0	0	0
By Cesarean section	0	0	0
Total Adult Deaths	0	0	0
Rates per 1000 live births	0.00	0.00	0.00
Total Live Births	858	1928	2786
Total Fetal Deaths	12	44	56
Rate per 1000 total births	13.79	22.31	19.70
Total Neonatal Deaths	18	45	63
Rate per 1000 total births	20.69	22.82	22.17
Total Perinatal Mortality	30	89	119
Rate per 1000 total births	34.48	45.13	41.87
Perinatal Mortality (1000 grams & over)	24	57	81
Rate per 1000 total births	27.78	29.41	28.91

II. TOTAL DISCHARGES BY TYPE OF DELIVERY

	White	Non-White	Total
Abortion*, completion of	0	1	1
Abortion, spontaneous	3	12	15
Abortion, therapeutic	0	2	2
Ectopic pregnancy, early	0	0	0
Ectopic pregnancy, late	0	0	0
Full Term, spontaneous delivery	341	1029	1370
Full Term, operative delivery	433	591	1024
Premature†, spontaneous delivery	52	193	245
Premature, operative delivery	38	125	163
Immature‡, spontaneous delivery	4	22	26
Immature, operative delivery	2	12	14
Postpartum admission	0	0	0
Discharged undelivered	59	112	171
Not pregnant	0	0	0
Died undelivered	0	0	0
Total Discharges	932	2099	3031
Percentage	30.7	69.3	100.0

* An abortion is any fetus or infant weighing between 0-499 gm.

† A premature is any fetus or infant weighing between 1000-2499 gm.

‡ An immature is any fetus or infant weighing between 500-999 gm.

III. TOTAL DISCHARGES BY REASON FOR ADMISSION

	White	Non-White	Total
True labor	681	1567	2248
Suspected labor	30	27	57
Elective induction	37	3	40
Indicated induction	21	20	41
Postpartum admission	0	0	0
Ectopic pregnancy	0	0	0
Elective section	13	40	53
Abortion, threatened	0	0	0
Abortion, completion of	3	15	18
Abortion, therapeutic	0	0	0
Obstetrical disease	147	422	569
Medical disease	0	2	2
Surgical disease	0	3	3
Mole and Chorio-carcinoma	0	0	0
Not pregnant	0	0	0
Special study	0	0	0
Total	932	2099	3031

IV. SERVICE STATUS

Race	Private		Ward		Total	
	No.	%	No.	%	No.	%
White	489	52.5	2041	97.2	2530	83.5
Non-White	443	47.5	58	2.8	501	16.5
Total	932	100.0	2099	100.0	3031	100.0

V.—A AGE AND PARITY—TOTAL PATIENTS DELIVERED

White Discharges

AGE	PARITY												Total	Perinatal Mortality	
	0	1	2	3	4	5	6	7	8	9	10 & Over	Unknown		No.	%
Under 15	4	0	0	0	0	0	0	0	0	0	0	0	4	0(0)	0.0
15–19	117	25	12	4	0	0	0	0	0	0	0	0	158	5(1)	3.2
20–24	77	97	76	30	16	7	0	0	0	0	0	0	303	12(3)	4.0
25–29	27	47	62	33	24	20	10	3	1	0	0	0	227	6(1)	2.6
30–34	5	17	23	25	13	7	8	4	1	2	1	0	106	3(1)	2.8
35–39	3	6	8	9	7	11	3	4	1	1	2	0	55	2(0)	3.6
40–44	0	2	3	4	2	3	2	0	0	0	1	0	17	2(0)	11.8
45–49	0	0	0	0	0	0	0	0	0	0	0	0	0	0(0)	0.0
50 and over	0	0	0	0	0	0	0	0	0	0	0	0	0	0(0)	0.0
Total	233	194	184	105	62	48	23	11	3	3	4	0	870	30(6)	3.4
Perinatal Mortality No.	9(2)	6(1)	4(1)	3(0)	4(0)	1(1)	1(1)	1(0)	0(0)	0(0)	1(0)	0(0)	30(6)		
Per Cent	3.9	3.1	2.2	2.9	6.5	2.1	4.3	9.1	0.0	0.0	25.0	0.0	3.4		

The numbers in ( ) indicate immature deaths.

V.—B AGE AND PARITY—TOTAL PATIENTS DELIVERED

Non-White Discharges

AGE	PARITY												Total	Perinatal Mortality	
	0	1	2	3	4	5	6	7	8	9	10 & Over	Unknown		No.	%
Under 15	22	0	0	0	0	0	0	0	0	0	0	0	22	0(0)	0.0
15–19	282	169	50	15	3	0	0	0	0	0	0	0	519	23(10)	4.4
20–24	103	140	169	87	58	36	15	4	3	0	0	0	615	24(10)	3.9
25–29	14	33	55	53	55	76	42	27	8	3	3	0	369	14(4)	3.8
30–34	4	17	27	33	34	34	25	30	19	17	13	0	253	14(6)	5.5
35–39	5	9	14	13	15	18	21	20	11	7	17	0	150	12(2)	8.0
40–44	1	0	2	0	8	4	5	3	6	3	10	0	42	2(0)	4.8
45–49	0	0	0	0	0	0	1	0	0	1	0	0	2	0(0)	0.0
50 and over	0	0	0	0	0	0	0	0	0	0	0	0	0	0(0)	0.0
Total	431	368	317	201	173	168	109	84	47	31	43	0	1972	89(32)	4.5
Perinatal Mortality															
No.	19(10)	14(5)	16(3)	13(7)	5(2)	8(1)	2(1)	2(0)	3(0)	3(1)	4(2)	0(0)	89(32)		
Per Cent	4.4	3.8	5.0	6.5	2.9	4.8	1.8	2.4	6.4	9.7	9.3	0.0	4.5		

VI.—A PRENATAL CARE—TOTAL PATIENTS DELIVERED

Number of Prenatal Visits	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
0	65	7.5	158	8.0	223	7.8	26(13)	11.7
1–3	73	8.4	307	15.6	380	13.4	26(13)	6.8
4–6	132	15.2	521	26.4	653	23.0	29(6)	4.4
7–9	189	21.7	501	25.4	690	24.3	11(0)	1.6
10–12	105	12.1	273	13.8	378	13.3	8(0)	2.1
13 or more	65	7.5	94	4.8	159	5.6	4(0)	2.5
Elsewhere	107	12.3	61	3.1	168	5.9	6(2)	3.6
Unknown	134	15.4	57	2.9	191	6.7	9(4)	4.7
Total	870	100.0	1972	100.0	2842	100.0	119(38)	4.2

VI.—B TIME OF FIRST VISIT

	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
13 weeks or earlier	65	7.5	156	7.9	221	7.8	8(1)	3.6
14–27 weeks	350	40.2	906	45.9	1256	44.2	44(9)	3.5
28 weeks or later	165	19.0	639	32.4	804	28.3	26(9)	3.2
Unknown	118	13.6	52	2.6	170	6.0	9(4)	5.3
Total	698	80.2	1753	88.9	2451	86.2	87(23)	3.5

VII. PRESENTATIONS—TOTAL INFANTS

Presentation	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
Vertex	831	95.5	1876	95.1	2707	95.2	85(23)	3.1
Breech*	29	3.3	72	3.7	101	3.6	25(12)	24.8
Face	2	0.2	11	0.6	13	0.5	3(1)	23.1
Brow	3	0.3	2	0.1	5	0.2	1(0)	20.0
Compound	0	0.0	2	0.1	2	0.1	0(0)	0.0
Transverse	4	0.5	9	0.5	13	0.5	4(2)	30.8
Unknown	1	0.1	0	0.0	1	0.0	1(0)	100.0
Total	870	100.0	1972	100.0	2842	100.0	119(38)	4.2
Twins	10	1.1	54	2.7	64	2.3	8(2)	12.5
Triplets	0	0.0	0	0.0	0	0.0	0(0)	0.0
***Breech Perinatal Mortality**								
500–999 gm.	1	3.4	12	16.7	13	12.9	12	92.3
1000–1499 gm.	3	10.3	9	12.5	12	11.9	7	58.3
1500–1999 gm.	0	0.0	13	18.1	13	12.9	1	7.7
2000–2499 gm.	4	13.8	7	9.7	11	10.9	1	9.1
2500 gm. & over	21	72.4	31	43.1	52	51.5	4	7.7
Total	29	100.0	72	100.0	101	100.0	25	24.8

Mortality 1000 grams and over—12.9%.

VIII. METHOD OF DELIVERY—TOTAL INFANTS

	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
A. Vaginal deliveries								
1. Total forceps deliveries	400	46.0	551	27.9	951	33.5	16(2)	1.7
Low forceps, elective	306	35.2	417	21.1	723	25.4	12(1)	1.7
Low forceps, indicated	0	0.0	0	0.0	0	0.0	0(0)	0.0
Mid forceps, elective	93	10.7	134	6.8	227	8.0	4(1)	1.8
Mid forceps, indicated	1	0.1	0	0.0	1	0.0	0(0)	0.0
High forceps	0	0.0	0	0.0	0	0.0	0(0)	0.0
Vacuum extractor, elective	0	0.0	0	0.0	0	0.0	0(0)	0.0
Vacuum extractor, indicated	0	0.0	0	0.0	0	0.0	0(0)	0.0
Failed forceps/extractor	0	0.0	2	0.1	2	0.1	0(0)	0.0
2. Breech	25	2.9	54	2.7	79	2.8	19(8)	24.1
Spontaneous	2	0.2	12	0.6	14	0.5	4(2)	28.6
Assisted	6	0.7	13	0.7	19	0.7	5(3)	26.3
Extraction	16	1.8	27	1.4	43	1.5	10(3)	23.3
Decomposition & Extraction	1	0.1	2	0.1	3	0.1	0(0)	0.0
3. Other operations	2	0.2	6	0.3	8	0.3	2(2)	25.0
Version and extraction (single)	0	0.0	1	0.1	1	0.0	1(1)	100.0
Version and extraction (second twin)	0	0.0	4	0.2	4	0.1	1(1)	25.0
Manual rotation, head only	1	0.1	1	0.1	2	0.1	0(0)	0.0
Rotation of shoulders	0	0.0	0	0.0	0	0.0	0(0)	0.0
Destructive operations	0	0.0	0	0.0	0	0.0	0(0)	0.0
Conversion only	1	0.1	0	0.0	1	0.0	0(0)	0.0
4. Spontaneous	395	45.4	1232	62.5	1627	57.2	61(22)	3.7
B. Abdominal deliveries	48	5.5	129	6.5	177	6.2	21(4)	11.9
1. Cesarean section	47	5.4	128	6.5	175	6.2	19(3)	10.9
2. Rupture of uterus	1	0.1	0	0.0	1	0.0	1(0)	100.0
3. Advanced ectopic pregnancy	0	0.0	1	0.1	1	0.0	1(1)	100.0

IX. ANCILLARY OPERATIVE PROCEDURES FOR LABOR AND DELIVERY

	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
A. Induction of labor								
Oxytocic	68	7.8	39	2.0	107	3.8	4(1)	3.7
Rupture of membranes	0	0.0	0	0.0	0	0.0	0(0)	0.0
Rupture of membranes and oxytocic	0	0.0	0	0.0	0	0.0	0(0)	0.0
Stripping of membranes	0	0.0	0	0.0	0	0.0	0(0)	0.0
Stripping of membranes and oxytocic	0	0.0	0	0.0	0	0.0	0(0)	0.0
Other	0	0.0	0	0.0	0	0.0	0(0)	0.0
Total Inductions	68	7.8	39	2.0	107	3.8	4(1)	3.7
(Perinatal mortality over 1000 grams 0.0%)								
Total Elective Inductions	32	3.7	3	0.2	35	1.2	0(0)	0.0
B. Miscellaneous								
Decompression of hydrocephalus	0	0.0	0	0.0	0	0.0	0(0)	0.0
Forceps to after-coming head	10	1.1	4	0.2	14	0.5	3(0)	21.4
Manual removal of placenta, elective	20	2.3	13	0.7	33	1.2		
Manual removal of placenta, indicated	5	0.6	18	0.9	23	0.8		
Oxytocic stimulation of labor	13	1.5	20	1.0	33	1.2	1(1)	3.0
(Perinatal mortality over 1000 grams 0.0%.)								
Elective Oxytocic Stimulation	30	3.4	40	2.0	70	2.5	8(5)	11.4
Transfusion(s)	9	1.0	39	2.0	48	1.7		
Exploration of Uterus	1	0.1	6	0.3	7	0.2		
C. Episiotomies and lacerations								
Median	567	65.2	919	46.6	1486	52.3		
3rd degree lacerations	9	1.0	20	1.0	29	1.0		
4th degree lacerations	20	2.3	25	1.3	45	1.6		
Mediolateral	55	6.3	50	2.5	105	3.7		
3rd degree lacerations	1	0.1	1	0.1	2	0.1		
4th degree lacerations	0	0.0	0	0.0	0	0.0		
Total Episiotomies	652	74.9	1015	51.5	1667	58.7		
3rd degree laceration spontaneous, repair of	1	0.1	8	0.4	9	0.3		
4th degree laceration spontaneous, repair of	0	0.0	3	0.2	3	0.1		
Cervical laceration, repair of	1	0.1	13	0.7	14	0.5		
Vaginal laceration, repair of	3	0.3	14	0.7	17	0.6		
D. Other procedures								
Appendectomy, incidental	5	0.6	1	0.1	6	0.2	0(0)	0.0
Other gyn. oper	1	0.1	0	0.0	1	0.0	0(0)	0.0
Other surg. oper	8	0.9	18	0.9	26	0.9	3(2)	11.5
Hysterorrhaphy	1	0.1	0	0.0	1	0.0	0(0)	0.0

X. PUERPERAL MORBIDITY

	White		Non-White		Total	
	No.	%	No.	%	No.	%
One Day Fever	49	5.6	149	7.6	198	7.0
Standard Fever	47	5.4	212	10.8	259	9.1
Total	96	11.0	361	18.3	457	16.1
Infection						
Endometritis	18	2.1	119	6.0	137	4.8
Mastitis	0	0.0	8	0.4	8	0.3
Thrombophlebitis	1	0.1	5	0.3	6	0.2
Infected Wound	1	0.1	4	0.2	5	0.2
Peritonitis	0	0.0	1	0.1	1	0.0
Urinary tract	13	1.5	65	3.3	78	2.7
Other Complications						
Respiratory Disease	5	0.6	14	0.7	19	0.7
Abdominal Wound Dehiscience	3	0.3	1	0.1	4	0.1
Postspinal Symptoms	1	0.1	2	0.1	3	0.1

XI. COMPLICATIONS

	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
A. Antepartum hemorrhage								
Placenta previa	6	0.7	12	0.6	18	0.6	2(2)	11.1
Abruptio placentae	12	1.4	37	1.9	49	1.7	21(6)	42.9
Rupture of uterus	1	0.1	0	0.0	1	0.0	0(0)	0.0
Traumatic	0	0.0	0	0.0	0	0.0	0(0)	0.0
Previous section, severe	1	0.1	0	0.0	1	0.0	1(0)	100.0
Previous section, incidental	0	0.0	0	0.0	0	0.0	0(0)	0.0
Other causes	0	0.0	3	0.2	3	0.1	1(1)	33.3
Total	19	2.2	52	2.6	71	2.5	25(9)	35.2
B. Postpartum hemorrhage								
Early	16	1.8	58	2.9	74	2.6	——	——
Late	0	0.0	0	0.0	0	0.0	——	——
Hematomata	0	0.0	0	0.0	0	0.0	——	——
Total	16	1.8	58	2.9	74	2.6	——	——
C. Anemia								
Less than 5 gm	0	0.0	0	0.0	0	0.0	0(0)	0.0
5.0– 5.9 gm	0	0.0	1	0.1	1	0.0	0(0)	0.0
6.0– 6.9 gm	0	0.0	0	0.0	0	0.0	0(0)	0.0
7.0– 7.9 gm	4	0.5	5	0.3	9	0.3	2(2)	22.2
8.0– 8.9 gm	4	0.5	8	0.4	12	0.4	3(1)	25.0
9.0– 9.9 gm	20	2.3	134	6.8	154	5.4	8(1)	5.2
10.0–10.9 gm	53	6.1	350	17.7	403	14.2	18(5)	4.5
11 gm. and over	764	87.8	1442	73.1	2206	77.6	83(25)	3.8
Unknown	25	2.9	32	1.6	57	2.0	5(4)	8.8
Total	870	100.0	1972	100.0	2842	100.0	119(38)	4.2

XI. COMPLICATIONS (Cont.)

	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
D. Toxemia								
Pre-eclampsia—mild	27	3.1	73	3.7	100	3.5	7(0)	7.0
Pre-eclampsia—severe	2	0.2	5	0.3	7	0.2	0(0)	0.0
Eclampsia—antepartum	0	0.0	2	0.1	2	0.1	0(0)	0.0
Eclampsia—intrapartum	0	0.0	0	0.0	0	0.0	0(0)	0.0
Eclampsia—postpartum	0	0.0	2	0.1	2	0.1	0(0)	0.0
Total acute	29	3.3	82	4.2	111	3.9	7(0)	6.3
Chronic hyper. with toxemia	0	0.0	11	0.6	11	0.4	1(0)	9.1
Chronic hyper. without tox	16	1.8	120	6.1	136	4.8	9(2)	6.6
Total chronic	16	1.8	131	6.6	147	5.2	10(2)	6.8
Unclassified	1	0.1	0	0.0	1	0.0	0(0)	0.0
Total Toxemia	46	5.3	213	10.8	259	9.1	17(2)	6.6
E. Medical complications								
Heart disease	2	0.2	4	0.3	6	0.2	0(0)	0.0
No failure	1	0.1	3	0.2	4	0.1	0(0)	0.0
Failure	1	0.1	1	0.1	2	0.1	0(0)	0.0
Tuberculosis, pulmonary	0	0.0	0	0.0	0	0.0	0(0)	0.0
Viral pulmonary disease	0	0.0	1	0.1	1	0.0	0(0)	0.0
Other pulmonary disease	1	0.1	1	0.1	2	0.1	0(0)	0.0
Uncommon anemias	0	0.0	0	0.0	0	0.0	0(0)	0.0
Oliguria/anuria	0	0.0	0	0.0	0	0.0	0(0)	0.0
Pyelonephritis	2	0.2	3	0.2	5	0.1	0(0)	0.0
RH Negatives	114	13.1	124	6.3	238	8.4	10(5)	4.2
Rubella	3	0.3	2	0.1	5	0.2	0(0)	0.0
Diabetes	6	0.7	8	0.4	14	0.5	1(0)	7.1
Abnormal glucose tol. test	0	0.0	5	0.3	5	0.2	1(0)	20.0
F. Cord pathology								
Prolapse—Vaginal deliveries	5	0.6	6	0.3	11	0.4	6(2)	54.5
Prolapse—Abdominal deliveries	1	0.1	5	0.3	6	0.2	0(0)	0.0
Other	2	0.2	1	0.1	3	0.1	3(0)	100.0
G. Intrapartum fever	8	0.9	29	1.5	37	1.3	11(5)	29.7
H. Uterine dysfunction	21	2.4	39	2.0	60	2.1	1(1)	1.7
I. Labor over 20 hours—method of delivery								
Cesarean section	1	0.1	2	0.1	3	0.1	0(0)	0.0
Spontaneous	3	0.3	18	0.9	21	0.7	2(2)	9.5
Low forceps, elective	4	0.5	19	1.0	23	0.8	0(0)	0.0
Low forceps, indicated	0	0.0	0	0.0	0	0.0	0(0)	0.0
Mid forceps, elective	1	0.1	4	0.2	5	0.2	0(0)	0.0
Mid forceps, indicated	0	0.0	0	0.0	0	0.0	0(0)	0.0
Breech	1	0.1	0	0.0	1	0.0	0(0)	0.0
Other	0	0.0	0	0.0	0	0.0	0(0)	0.0
Total	10	1.1	43	2.2	53	1.9	2(2)	3.8
J. Shoulder dystocia	2	0.2	6	0.3	8	0.3	1(0)	12.5
K. Contracted pelvis	9	1.0	56	2.8	65	2.3	1(0)	1.5

XII. ABDOMINAL OPERATIONS

	White		Non-White		Total		Perinatal Mortality	
	Prim.	Repeat	Prim.	Repeat	Prim.	Repeat	Prim.	Repeat
A. Cesarean sections								
Low cervical	22	4	47	27	69	31	11.6	6.5
Low cervical and sterilization	5	12	5	16	10	28	10.0	0.0
Classical	3	0	15	6	18	6	27.8	16.7
Classical and sterilization	1	0	2	10	3	10	33.3	10.0
Extraperitoneal	0	0	0	0	0	0	0.0	0.0
Cesarean hysterectomy	0	0	0	0	0	0	0.0	0.0
Total Sections	31	16	69	59	100	75	15.0	5.3
Indications								
1. Pelvic contractions and mechanical dystocia								
Contracted pelvis	3	4	8	23	11	27	0.0	3.7
Large fetus	6	0	5	0	11	0	0.0	0.0
Uterine inertia	0	0	0	0	0	0	0.0	0.0
Malpresentation	3	0	14	0	17	0	0.0	0.0
Breech	0	0	4	0	4	0	0.0	0.0
Face	0	0	3	0	3	0	0.0	0.0
Brow	1	0	1	0	2	0	50.0	0.0
Transverse	2	0	6	0	8	0	0.0	0.0
Compound or other	0	0	0	0	0	0	0.0	0.0
Tumor blocking birth canal	0	0	0	0	0	0	0.0	0.0
Total	12	4	27	23	39	27	50.0	3.7
2. Previous uterine surgery								
Previous cesarean section	0	11	0	29	0	40	0.0	2.5
Previous myomectomy	0	0	0	0	0	0	0.0	0.0
Previous hysterotomy	0	0	0	0	0	0	0.0	0.0
Total	0	11	0	29	0	40	0.0	2.5
3. Hemorrhage								
Abruptio placentae	5	1	8	2	13	3	25.0	0.0
Placenta previa	3	0	10	3	13	3	62.5	100.0
Other	0	0	0	0	0	0	0.0	0.0
Total	8	1	18	5	26	6	100.0	100.0
4. Toxemia								
Pre-eclampsia	0	0	1	0	1	0	0.0	0.0
Eclampsia	0	0	2	0	2	0	0.0	0.0
Chronic hypertension and toxemia	0	0	0	0	0	0	0.0	0.0
Chronic hypertension	0	0	0	0	0	0	0.0	0.0
Total	0	0	3	0	3	0	0.0	0.0
5. Intercurrent diseases								
Diabetes	2	0	1	0	3	0	33.3	0.0
6. Miscellaneous Total								
Elderly primigravida	0	0	0	0	0	0	0.0	0.0
Fetal distress	3	0	3	1	6	1	0.0	0.0
Prolapsed cord	1	0	3	1	4	1	0.0	0.0
Carcinoma	0	0	1	0	1	0	0.0	0.0
Intrapartum infection	0	0	2	0	2	0	0.0	0.0
Other	2	0	2	0	4	0	50.0	0.0
B. Cesarean hysterectomy	0		0		0		0	0.0
C. Puerperal hysterectomy	0		0		0			
D. Laparotomies								
Late ectopic pregnancy	0		1		1			
Rupture of uterus	1		0		1			

XIII. DELIVERIES (INFANTS) WITH PREVIOUS SECTION

	White		Non-White		Total		Perinatal Mortality	
	No.	%	No.	%	No.	%	No.	%
Repeat section	16	1.8	59	3.0	75	2.6	4(0)	5.3
Vaginal deliveries								
Spontaneous	2	0.2	5	0.3	7	0.2	0(0)	0.0
Low forceps, elective	1	0.1	2	0.1	3	0.1	1(0)	33.3
Low forceps, indicated	0	0.0	0	0.0	0	0.0	0(0)	0.0
Mid forceps, elective	0	0.0	1	0.1	1	0.0	0(0)	0.0
Breech, spontaneous	0	0.0	0	0.0	0	0.0	0(0)	0.0
Breech, extraction	0	0.0	0	0.0	0	0.0	0(0)	0.0
Breech, decomposition & extraction	0	0.0	0	0.0	0	0.0	0(0)	0.0
Other (specify)	1	0.1	0	0.0	0	0.0	1(0)	100.0
Total	20	2.3	67	3.4	87	3.1	6(0)	6.9

XIV. THERAPEUTIC ABORTIONS

	White	Non-White	Total
	No.	No.	No.
Indications:			
Vaginal	0	1	1

XV. STERILIZATION

	White	Non-White	Total
	No.	No.	No.
Type of Operation			
Tubal, puerperium	21	7	28
Tubal, not pregnant	0	0	0
Accompanying cesarean section	18	33	51
Accompanying therapeutic abortion	0	0	0
Hysterectomy, with cesarean section	0	0	0
Hysterectomy, puerperal, steril	0	1	1
X-ray	0	0	0
Total	39	41	80
Indications for Sterilization			
Multiple cesarean sections	12	18	30
Multiparity	26	20	46
Other	1	3	4
Total	39	41	80

XVI ADULT DEATHS

Total Births	2842
Maternal deaths	0
Rate per 1000 births	0.00
Total Registered Births	2451
Maternal deaths (registered patients)	0
Rate per 1000 registered births	0.00

XVII. MALFORMATIONS

	White	Non-White	Total	Perinatal Mortality	
				No.	%
Club Foot	3	3	6	2(0)	33.3
Polydactylism	1	8	9	2(0)	22.2
Undescended Testes	1	3	4	1(0)	25.0
Hypospadias	1	5	6	0(0)	0.0
Mouth	0	1	1	0(0)	0.0
CNS System	8	8	16	7(1)	43.8
Cardiovaseular System	8	15	23	7(1)	30.4
Other	3	9	12	3(0)	25.0
Total	20	45	65	16(2)	24.6

XVIII. CAUSE OF PERINATAL DEATH

	White	Nnn-White	Total
Analgesia/anesthesia	0	0	0
Anomaly	5	3	8
Anoxia—Maternal	1	2	3
Anoxia—Obst	8	29	37
Anoxia—Unknown	6	20	26
Infection—Infant	0	3	3
Infeetion—Material	0	3	3
Isoimmunization	1	2	3
Respiratory Disease	8	27	35
Trauma	0	0	0
Other	1	0	1
Total	30	89	119

XIX. INFANTS DELIVERED

A. Total Live Births According to Weight and Condition at Discharge

Birth Weight Grams	White			Non-White			Total		
	Live Births	Died	%	Live Births	Died	%	Live Births	Died	%
500– 999	5	5	100.0	15	13	86.7	20	18	90.0
1000–1499	6	4	66.7	29	11	37.9	35	15	42.9
1500–1999	14	0	0.0	82	6	7.3	96	6	6.3
2000–2499	66	0	0.0	195	7	3.6	261	7	2.7
2500 and over	767	9	1.2	1607	8	0.5	2374	17	0.7
Total	858	18	2.1	1928	45	2.3	2786	63	2.3

B. Total Stillbirths According to Weight

Birth Weight Grams	White			Non-White			Total		
	Total Births	Still-births	%	Total Births	Still-births	%	Total Births	Still-births	%
500– 999	6	1	16.7	34	19	55.9	40	20	50.0
1000–1499	8	2	25.0	33	4	12.1	41	6	14.6
1500–1999	15	1	6.7	89	7	7.9	104	8	7.7
2000–2499	67	1	1.5	196	1	0.5	263	2	0.8
2500 and over	774	7	0.9	1620	13	0.8	2394	20	0.8
Total	870	12	1.4	1972	44	2.2	2842	56	2.0

C. Total Perinatal Deaths According to Weight

Birth Weight Grams	White			Non-White			Total		
	Total Births	Perinatal Deaths	%	Total Births	Perinatal Deaths	%	Total Births	Perinatal Deaths	%
500– 999	6	6	100.0	34	32	94.1	40	38	95.0
1000–1499	8	6	75.0	33	15	45.5	41	21	51.2
1500–1999	15	1	6.7	89	13	14.6	104	14	13.5
2000–2499	67	1	1.5	196	8	4.1	263	9	3.4
2500 and over	774	16	2.1	1620	21	1.3	2394	37	1.5
Total	870	30	3.4	1972	89	4.5	2842	119	4.2

GYNECOLOGIC REPORT

I. DISCHARGES PER PATIENT

	1	2	3	4	5	6	Total
Number of patients	809	83	13	3	1	1	910

II. GENERAL DISCHARGE TYPE

	Ward	Private	Total
Number of discharges	558	479	1037
A. Gynecologic benign	295	285	580
1. Surgical	192	155	347
a. Minor, single	56	26	82
b. Minor, multiple	0	0	0
c. Major, single	133	129	262
d. Major, multiple	3	0	3
2. Non-operative	53	19	72
3. For diagnosis only	50	111	161
B. Gynecologic cancer	165	94	259
C. Pregnancy complications	88	81	169
D. Miscellaneous	10	19	29

III. DEATHS

	Ward	Private	Total
A. Operative	0	0	0
B. Non-operative	0	0	0
C. Diagnosis only	0	0	0
D. Cancer	7	1	8
E. Pregnancy complications	0	0	0
F. Miscellaneous	1	0	1
Total	8	1	9

IV. TRANSFERS

	Ward	Private	Total
Number	7	2	9

V. PRIMARY AND SECONDARY GYNECOLOGIC DIAGNOSIS

A. Vulva

Diagnosis	Primary	Secondary
Abscess, Bartholin's gland	9	0
Cyst, Bartholin's gland	0	1
Hymen, Imperforate	1	1
Papilloma of Vulva	1	0
Sebaceous Cyst, Vulva	1	0
Endometriosis	1	0
Other	2	0
Total	15	2

B. Vagina

Diagnosis	Primary	Secondary
Cyst, Gartner's duct	1	1
Cystocele	26	32
Endometriosis	1	0
Enterocele	0	3
Prolapse	2	1
Rectocele	6	38
Vaginitis, fungus	1	0
Stricture	1	0
Urethrocele	1	0
Incomplete tear	1	0
Syphilis	0	1
Hematoma	0	1
Fistula, Vesicovaginal from trauma	2	0
Total	42	77

C. Cervix

Diagnosis	Primary	Secondary
Cervicitis, acute	0	7
Cervicitis, chronic	30	162
Cyst, Nabothian	0	13
Erosion	0	2
Laceration	0	1
Polyp	9	3
Prolapse, stump	2	0
Basal cell hyperplasia	0	1
Stenosis	2	0
Endometriosis	1	1
Total	44	190

D. Uterus

Diagnosis	Primary	Secondary
Adenomyosis	4	10
Anomaly	1	0
Endometritis, acute	3	8
Endometritis, chronic	0	7
Endometrium, atrophic	1	12
Endometrium, hyperplasia	13	10
Endometrium, proliferative	10	86
Endometrium, secretory	4	56
Fibromyomata	118	13
Polyp, endometrial	13	9
Prolapse	25	17
Retroversion	0	2
Hyperplasia	3	8
Subinvolution of placental site	0	1
Total	195	239

E. Tubes

Diagnosis	Primary	Secondary
Abscess, tubo-ovarian (intact)	8	1
Abscess, tubo-ovarian (rupture)	4	0
Endometriosis	0	1
Hydrosalpinx	8	7
Salpingitis, acute	14	6
Salpingitis, chronic	10	28
Perisalpingitis, acute	1	0
Perisalpingitis, chronic	0	2
Other	1	0
Total	46	45

V. PRIMARY AND SECONDARY GYNECOLOGIC DIAGNOSIS (Cont.)

F. Ovary

Diagnosis	Primary	Secondary
Brenner tumor	0	2
Cyst, corpus luteum	7	10
Cyst, dermoid	0	2
Cyst, follicular	6	5
Cyst, parovarian	0	1
Cyst, simple	1	1
Cyst, undetermined	2	1
Cystadenoma, pseudomucinous	2	0
Cystadenoma, serous	2	3
Endometritis	3	0
Fibroma	0	2
Oophoritis, chronic	1	0
Other	3	1
Ovaries, poly cystic (S. L. Diseases)	4	0
Perioophoritis	1	1
Total	32	29

G. Other Gynecologic Diagnosis

Diagnosis	Primary	Secondary
Abscess, pelvic	1	0
Amenorrhea, hypothalamic	2	0
Bleeding, functional uterine	74	5
Bleeding, postmenopausal	12	1
Cellulitis, pelvic	8	5
Endometriosis, pelvic	3	4
Infertility	4	1
Mass, adnexal	3	3
Peritonitis, pelvic	1	6
Smear, Pap. Inconclusive	3	0
Sterility	1	0
Sterilization	80	4
Pelvic, congestive	0	1
Posthysterectomy Bleeding	1	0
Smear, Pap. Positive	2	0
Others	3	0
Total	198	30

VI. CANCER (Based on Patients)

A. Vulva

1. Diagnosis	Number of Patients	Irradiated	Operations	Irradiated and Operated	Medical
Adenocarcinoma	1	0	1	0	0
Epidermoid	2	0	2	0	0

2. Complications	Number
Carcinoma metastatic to lymph of groin	1

B. Vagina

1. Diagnosis	Number of Patients	Irradiated	Operations	Irradiated and Operated	Medical
Epidermoid	2	1	0	0	1
Adenocarcinoma	1	0	1	0	0

C. Cervix

1. Diagnosis	Number of Patients	Irradiated	Operations	Irradiated and Operated	Medical
Adenocarcinoma	2	0	1	0	1
Carcinoma in situ	14	7	4	0	3
Squamous cell	117	70	28	0	19
Total	133	77	33	0	23

VI. CANCER (Based on Patients) (Cont.)

C. Cervix (Cont.)

2. Complications	Number
Cellulitis, pelvic	2
Fistula, rectovaginal (radium)	4
Lymph nodes in pelvis, metastatic	5
Lymph nodes out of pelvis, metastatic	5

D. Uterus

1. Diagnosis	Number of Patients	Irradiated	Operations	Irradiated and Operated	Medical
Adenocarcinoma	17	2	3	10	2
Mixed Mesodermal	3	0	2	0	1
Sarcoma	1	0	0	0	1
Total	21	2	5	10	4

2. Complications	Number
Lymph nodes in pelvis, metastatic	3
Lymph nodes out of pelvis, metastatic	1

E. Tubes

1. Diagnosis	Number of Patients
Carcinoma	0

F. Ovary

1. Diagnosis	Number of Patients	Irradiated	Operations	Irradiated and Operated	Medical
Adenocarcinoma	6	2	0	0	4
Cystadenocarcinoma, pseudomucinous	1	0	0	0	1
Cystadenocarcinoma, serous	8	1	1	0	6
Granulosa cell	1	0	0	0	1
Teratoma	4	0	3	0	1
Total	20	3	4	0	13

2. Complications	Number
Ascites	4
Lymph nodes in pelvis, metastatic	2
Lymph nodes out of pelvis, metastatic	4

VI. CANCER (Based on Patients) (Cont.)

G. Unknown Source

Diagnosis	Number of Patients
	0

VII. PREGNANCY COMPLICATIONS

Diagnosis	Number of Patients
Abortion, incomplete	98
Hemorrhage, postpartum, late	3
Infection, puerperal	1
Mole, hydatid	4
Pregnancy, intrauterine	30
Pregnancy, tubal ruptured	25
Pregnancy, tubal unruptured	3
Secundines, retained	1
Subinvolution of placental site	4
Total	169

VIII. OTHER SYSTEMS—DIAGNOSIS

A. Rectum

Diagnosis	Primary	Secondary
Other	0	1
Total	0	1

B. Urethra

Diagnosis	Primary	Secondary
Caruncle	1	0
Diverticulum	1	0
Polyp	1	0
Urethritis, chronic	2	1
Incontinence	6	4
Stricture	3	2
Others	2	0
Total	16	7

C. Bladder

Diagnosis	Primary	Secondary
Carcinoma, metastatic	3	0
Cystitis, acute	0	2
Cystitis, chronic	3	5
Other	0	1
Total	6	8

D. Ureters

Diagnosis	Primary	Secondary
Hydroureter	0	2
Stricture	2	1
Total	2	3

E. Kidneys

Diagnosis	Primary	Secondary
Hydronephrosis	1	4
Other	3	0
Pyelonephritis, acute	1	3
Pyelonephritis, chronic	0	1
Calculus	0	2
Total	5	10

F. Abdominal Diseases

Diagnosis	Primary	Secondary
Adhesions, peritoneal	2	3
Appendicitis	2	0
Hernia, inguinal	0	1
Ileus, paralytic	0	1
No disease	1	0
Obstruction, small intestine	1	0
Foreign body	2	0
Total	8	5

IX. OPERATIVE PROCEDURES

A. Vulva

Operations	Number of Patients
Bartholin Gland, excision	7
Bartholin Gland, I&D	2
Biopsy	1
Other	7
Vulvectomy, complete	2
Vulvectomy, radical	1
Hymenotomy	2
Total	22

B. Vagina

Operations	Number of Patients
Biopsy	4
Colpoperineorrhaphy	2
Colpoplasty, anterior	17
Colpoplasty, posterior	7
Colpoplasty, anterior and posterior	56
Colporrhaphy	2
Colpotomy, diagnostic	20
Other	8
Radioactive substances, insertion of	89
Total	205

C. Uterus and Cervix

Operations	Number of Patients
Cervix, biopsy	425
Conization	49
Dilation, cervix	2
D&C, uterus, diagnostic	450
D&C, uterus, incomplete abortion	96
Excision, local, cervix	9
Hysterectomy, radical and lymph node	2
Hysterectomy, subtotal	2
Hysterectomy, total abdominal	134
Hysterectomy, total vaginal	55
Hysteromyomectomy	4
Hysteropexy, other types	1
Other	13
Radioactive sub. inserted into cervix	90
Radioactive sub. inserted into uterus	88
Trachelectomy	3
Trachelorrhaphy	1
Uterus, insufflation of	3
Hysterotomy	3
Partial pelvic extent., No. American	1
Total	1427

D. Tubes

Operations	Number of Patients
Ligation	7
Salpingectomy, unilateral, partial	8
Salpingectomy, bilateral, partial	52
Salpingectomy, unilateral, complete	12
Salpingectomy, bilateral, complete	3
Salpingo-oophorectomy, unilateral	24
Salpingo-oophorectomy, bilateral	3
Salpingoplasty	2
Salpingostomy	1
Total	112

E. Ovary

Operations	Number of Patients
Excision, local lesion	7
Oophorectomy, unilateral, complete	8
Other	14
Drain of ovary, cyst, abscess, etc.	1
Oophorectomy, unilat., partial	3
Oophorectomy, bilat., complete	1
Total	34

F. Urinary System

Operations	Number of Patients
Bladder, biopsy	2
Cystectomy	2
Cystoscopy, diagnostic	63
Cystoscopy, therapeutic	12
Ileal Loop	1
Ureterostomy	1
Ureterectomy	2
Total	83

IX. OPERATIVE PROCEDURES (Cont.)

G. Abdominal and Others

Diagnosis	Number of Patients
Adhesions, lysis of	18
Appendectomy	40
Colostomy	2
Dissection, radical groin	4
Laparotomy, exploratory	112
Lymph node, biopsy of	6
Mesentery, biopsy of	2
Miscellanous	44
Peritoncocentesis	3
Presacral neurectomy	4
Proctoscopy	21
Omentectomy	1
Total	257

H. Irradiation

Type	No. of Times
Other	51
Radium	89
Total	140

X. MORBIDITY AND COMPLICATIONS OF OPERATIONS

A. Minor Single

1. Total	Number	Morbidity
	455	72
2. Causes of Morbidity	**Number**	
Cause unknown	57	
Urinary tract	10	
Others	3	
Pulmonary	1	
Septicemia	1	
Total	72	
3. Complications	**Number**	
Cystitis	1	
Paralytic ileus	1	
Secondary Anemia	3	
Other	4	
Total	9	

B. Minor Multiple

1. Total	Number	Morbidity
	8	2
2. Causes of Morbidity	**Number**	
Cause unknown	2	
3. Complications	**Number**	
Endometritis	1	
Total	1	

X. MORBIDITY AND COMPLICATIONS OF OPERATIONS (Cont.)

C. Major Single

1. Total	Number	Morbidity
	425	179
2. Causes of Morbidity	**Number**	
Abd. wound infection	8	
Cause unknown	106	
Pelvic abscess	1	
Peritonitis	1	
Pulmonary	8	
Thrombophlebitis	1	
Urinary tract	51	
Other	3	
Total	179	
3. Complications	**Number**	
Atelectasis	1	
Paralytic ileum	9	
Postoperative hemorrhage	1	
Pulm. embolism	1	
Pyelonephritis	2	
Respiratory disease	5	
Secondary anemia	10	
Urinary retention	2	
Wound infection	7	
Other	25	
Cystitis	11	
Evisceration	1	
Total	75	

D. Major Multiple

1. Total	Number	Morbidity
	8	5
2. Causes of Morbidity	**Number**	
Abd. wound infection	1	
Pelvic abscess	1	
Cause unknown	1	
Peritonitis	1	
Urinary tract	1	
Total	5	
3. Complications	**Number**	
Paralytic ileum	1	
Wound breakdown	1	
Total	2	

DEATHS

L.W. UH-26-87-98, 25 yr. old W.F. ad. 1/7/64 Primary Adenocarcinoma of Ovary. Died 1/17/64 of Small Bowel Obstruction.

M.M. UH-27-06-54, 59 yr. old W.F. ad. 1/17/64 Carcinoma of Cervix. Died 2/5/64 of Congestive Heart Failure.

M.T. UH-21-74-84, 64 yr. old C.F. ad. 2/3/64 Carcinoma of Cervix. Died 2/15/64 of Carcinomatosis.

L.B. UH-27-25-23, 52 yr. old C.F. ad. 2/7/64 Carcinoma of Cervix. Died 2/22/64 of Atelectasis, right and Pneumonitis, left.

A.N. UH-16-88-63, 50 yr. old C.F. ad. 6/26/64 Hydronephrosis. Died 8/1/64 of Chronic Hydronephrosis.

V.G. UH-13-45-14, 33 yr. old C.F. ad. 8/28/64 Carcinoma of Cervix. Died same day of Bronchial Pneumonia.

R.S. UH-26-63-60, 54 yr. old W.F. ad. 8/28/64 Carcinoma of Cervix. Died 9/24/64 of Carcinomatosis.

L.J. UH-29-75-35, 72 yr. old C.F. ad. 9/15/64 Cystadenocarcinoma-serous. Died 9/28/64 of Uremia and Intestinal Obstruction.

F.R. UH-30-00-70, 55 yr. old C.F. ad. 11/7/64 Adenocarcinoma of Uterus. Died 11/12/64 of Acute Heart Failure.

President's Letter

Fellow Medical Alumni:

This letter for the April *Bulletin* would normally have been sent to the editor in February, in an effort to let the Alumni Association members know our plans for the annual reunion on the weekend of May 5-6-7, 1966.

Unfortunately, the January, 1966, issue of the *Bulletin* with the Presidential Letter telling of our preliminary efforts to plan a good Alumni Day for your returning members did not come off the press in time to be sent out before the Alumni Day activities. Instead of your receiving it in January, it has not appeared as of the last week of May. The delay was occasioned by a consecutive series of unfortunate delays which the editor assures us will not recur. I understand that the April issue is now on press and will appear in June. The July issue will mark the return of the *Bulletin* to a regular schedule. There are several things that I think are important for the Alumni to know.

One is that the President of the Alumni Association and the Board of Directors of the Alumni Association collaborate with the *Bulletin* in its publication but do not assume the responsibility for printing it. It is our aim to cooperate with the editor and his staff and to offer all of the help the Alumni office can give. Next, it should be pointed out to the Alumni that the annual dues of the Medical Alumni Association is $7.00. A subscription to the *Bulletin* (4 issues) amounts to $3.00. The type of bill sent to each alumnus is a type approved by the postal authorities. The Alumni Association collects the subscription funds and remits them to the *Bulletin*.

There have been criticisms of the *Bulletin*. There has been praise for the *Bulletin*. There have been criticisms for the Annual Alumni meeting. There have been criticisms of many things in-so-far as the Alumni Association is concerned. There are always those who criticize. There also has been much praise. I have

Continued on page xxxii

PRESIDENT'S LETTER (Cont.)

heard two criticisms of the Alumni Day activities and have heard hundreds of laudatory remarks. I feel that if those who have justifiable criticism would come to the Alumni meetings and help make the necessary decisions at the annual business meeting, it would not then be necessary for them to write in letters of criticism after decisions have been made. Out of the thousands of Alumni, less than one hundred turned out for the annual business meeting this year. I do feel that a keener interest on the part of all Alumni is necessary for a smoothly functioning organization.

C. Parke Scarborough, M.D.

C. PARKE SCARBOROUGH, M.D.
President

Pay Your Medical Alumni Dues Directly to School of Medicine

In recent months, confusion has arisen concerning the place where physicians who wish to pay their Alumni dues may send their check. The following will serve to clarify this issue.

There are two Alumni Associations at the University of Maryland. There is the General Alumni Association with offices at College Park. Of particular interest to the School of Medicine, is the *Medical Alumni Association* with offices at Lombard and Greene Streets in Davidge Hall.

Physicians who are graduates of the School of Medicine are *urged* to maintain their active association and affiliation with their *Alma Mater* through the payment of their annual dues for which bills are sent at the end of each school year (June). Those Alumni who are interested in the General Alumni Association at College Park should seek membership through this organization, the offices of which are at College Park. All scientific sessions, alumni news and the Bulletin of the School of Medicine comprise the activities of the Medical Alumni Association. A magazine *Maryland* is the publication of the General Alumni Association.

Class NOTES

ELSEWHERE *in this edition you will find a "tear out" page, for reporting Alumni News to the* BULLETIN. *This is not an idle gesture.*

Your achievements, fellow alumnus, are of interest to your classmates. They constitute a reward to the faculty, are a challenge to the younger physicians, and are an item of prestige for the University. Please cooperate with us by forwarding news of yourself or any alumnus to the BULLETIN. *Thank you.*

P & S 1903

Dr. F. W. Mayer of 1830 James Avenue, St. Paul, Minnesota, writes: "The October 1965 edition of the *Bulletin* is worthwhile keeping as it goes back a few centuries in medical education in the United States.

"As an old timer, I send you a check to help the good cause. Not many members of the P & S class of 1903 are around any more and I wonder if Dr. Alexius McGlannan is still among the living. He was one of my most esteemed teachers not in a surgical subject but mostly physiologic chemistry and clinical laboratory." (Dr. Mayer enclosed a contribution toward the publication of the *Bulletin.*) (Dr. Alexius McGlannan died on February 25, 1940 at the age of 67—Editor.)

CLASS OF 1914

Dr. Theodore M. Davis, eminent urologist and recipient of the 1965 Alumni Honor Award and Gold Key, has been nominated Valentine lecturer by the urological section of the New York Academy of Medicine. Dr. Davis will present a paper entitled "Experiences in Transurethral Resections" illustrated with motion pictures of his original work in the development of this technique. The award, presented annually carries a considerable honorarium, a medal and a plaque with it.

CLASS OF 1925

Dr. Samuel C. Glick, associate professor of pediatrics, has been elected vice-president of the National Board of Trustees of the *Phi Delta Epsilon* Fraternity.

Dr. Thomas B. Turner, dean of the school of medicine of the Johns Hopkins University, has been recently elected president of the Association of American Medical Colleges.

CLASS OF 1928

Dr. Israel Kaufman, for a number of years head of the New York City Department of Health, Division of Tuberculosis and for the past 20 years physician-in-charge of the chest clinic, will shortly retire from the Department of Hospitals and the University of the State of New York. Dr. Kaufman has been a member of the faculty of the university for the past ten years serving as assistant professor of clinical medicine. He was formerly associated with Kingston Avenue Hospital where he served as attending physician and director of pulmonary disease. Following the closing of that institution he became connected with the Kings County Hospital Center as an attending physician, serving as president of its medical board for three years. Dr. Kaufman will continue in the private practice of internal medicine, specializing in diseases of the chest.

CLASS OF 1929

Dr. Jacob H. Conn, assistant professor of psychiatry at the Johns Hopkins University School of Medicine, was recently elected president of the American Board of Medical Hypnosis at its 17th Annual Meeting held in Los Angeles, California. Dr. Conn is also a past president of the society and recipient of the society's 1965 Schneck Award for significant contributions to the development of medical hypnosis. He was the first private practicing psychiatrist in Maryland to be certified by the American Board of Psychiatry and later by the Neurology Board in 1959.

CLASS OF 1934

Dr. Louis V. Blum has been elected president of the HIAS, the Jewish Welfare Fund's migration service agency. Dr. Blum succeeded Paul L. Cordish who has retired.

Dr. Ralph B. Garrison currently serves as chairman of the board of school trustees of Hamlet, North Carolina. After his graduation, he served as a junior resident at the Maryland House of Correction and an internship at the Baltimore City Hospital. Dr. Garrison helped organize the Hamlet civic club, the community's first organization of that type, and was its second president. Dr. Garrison is also active in a number of other civic and governmental organizations.

CLASS OF 1935

Dr. George F. Schmitt, F.A.C.P., is the author of a recently published popular book entitled *Diabetes for Diabetics.*

CLASS OF 1936

Dr. W. Kenneth Mansfield, obstetrician and gynecologist, has been recently elected head of the medical staff of the Franklin Square Hospital.

CLASS OF 1937

Dr. Everett S. Diggs has announced the relocation of his office for the practice of gynecology and female urology to the Greater Baltimore Medical Center, 6701 North Charles street, Baltimore. Several years ago, Dr. Diggs was named head of the department of gynecology at the then Women's Hospital of Maryland which has been reorganized as a large North Baltimore General Hospital in new quarters erected on the former grounds of the Sheppard Pratt Hospital, land purchased for this purpose of constructing a large general hospital to serve this section of the growing metropolitan area.

CLASS OF 1938

Dr. John Z. Bowers, president of the Josiah Macy Junior Foundation of New York City, presented the annual Beaumont Memorial Lecture at Yale University School of Medicine on January 28, 1966. Dr. Bowers' subject was "From Chinese Medicine to Western Medicine in Japan." Dr. Bowers is a recent author of a volume relating to a study of Japanese medicine, the outcome of more than two years work in the Orient.

Dr. Joseph M. George, Jr. of 637 East Sahara avenue, Las Vegas, Nevada, has been elected president of the Nevada State Medical Association for the year 1965-66.

Dr. Edward Siegel of 44 Broad street, Plattsburgh, N. Y., has been re-elected as chief of staff of the Physician's Hospital, Plattsburgh, N. Y.

CLASS OF 1940

Dr. Lester Caplan has been named chief of pediatrics of the North Charles General Hospital. Dr. Caplan also served on the Executive Committee and the National Board of Trustees of the Phi Delta Epsilon Medical Fraternity.

Dr. William R. Platt, pathologist and head of the department of pathology at the Missouri Baptist Hospital in St. Louis, is the editor of the section "New and Useful Technics" published in the *Bulletin of Pathology of the American Society of Clinical Pathologists.* Dr. Platt is the author of numerous scientific papers including a widely used publication on cells of spinal fluid and brain cysts.

CLASS OF 1941

Dr. Kenneth L. Zierler is a member of the Editorial Board of the *Bulletin* of the Johns Hopkins Hospital.

CLASS OF 1943

Dr. Frank Mason Sones, Jr., Director, department of pediatric cardiology and cardiac

laboratory of the Cleveland Clinic Foundation, was a recent recipient of one of the Modern Medicine awards for 1965.

CLASS OF 1944

Dr. Abraham Lilienfeld, a member of the faculty of the Johns Hopkins University, has been named a member of the newly organized international agency for cancer research. Dr. Lilienfeld was selected among scientists from seven countries including the United States which he will represent as a member of the advisory council. The organization is designed not to perform research on its own but makes grants for projects, toward which its seven members contribute. The agency secretariat is headed by the director-general of the World Health Organization.

CLASS OF 1946

Dr. Jerome D. Nataro, Bluegrass lane, Levittown, N. Y. has been recently certified by the American Board of Otolaryngology.

CLASS OF 1947

Dr. Pascal D. Spino of Greensburg, N. C. is currently serving as a volunteer on the S. S. Hope. The ship this year will spend a period of time in Nicaragua where Dr. Spino will be joined by specialists in every field of medicine. Dr. Spino has prepared a series of lectures to be presented to medical personnel in the Central American nation. Thanks to the efforts of a friend of his, Mrs. Antonio Rebolledo of Greensburg, Dr. Spino's lectures have been translated into Spanish.

CLASS OF 1948

Dr. Donald I. Mohler, Jr., of 975 Ryland Street, Reno, Nevada, has been elected Chief of Staff of the Washoe Medical Center in Reno. Dr. Mohler also serves as Chief of the Department of Obstetrics and Gynecology of the same hospital.

CLASS OF 1952

Dr. Norton Spritz of 445 East 68th street, New York City, has been appointed associate professor of medicine at the Cornell Medical College where Dr. Spritz will direct the Lipid Metabolism Laboratory of the Cornell Medical Division at Bellevue Hospital. Dr. Spritz assumed this new position on July 1, 1965.

CLASS OF 1953

Dr. Leonard B. Glick of the University of Pennsylvania has been appointed assistant professor of anthropology at the University of Wisconsin, at Madison, Wisconsin.

Dr. Joseph E. Shuman of the 1400 South Joyce street (Suite A102), Arlington, Virginia, has recently been certified as a diplomate of the American Board of Internal Medicine.

CLASS OF 1956

Dr. Harold I. Rodman of 1110 Spring street, Silver Spring, Md. has been recently certified a diplomate of the American Board of Ophthalmology.

CLASS OF 1956

Dr. George T. Smith serves as Research Professor of Pathology at the Desert Research Institute of the University of Nevada. Dr. Smith resides at 3293 Gypsum Road, Reno, Nevada.

CLASS OF 1959

Dr. Robert S. Holt, who holds the position of captain in the United States Air Force, recently participated in a series of programs on the latest advancement in the medical aspects of aviation and space travel. Dr. Holt, who has served in Vietnam, is currently on duty as a resident neurosurgeon at the University Hospital in Baltimore.

Deaths

CLASS OF 1902

Dr. Ernest Charles Lehnert of 3003 North Charles Street, died October 25, 1965 at the age of 85

CLASS OF 1904

Dr. Robert Emmett Houston died on October 4, 1965 at his home, 411 East Washington street, Greenville, S. C. Dr. Houston, who had been retired a number of years, was 87.

A native of Greenville, he was graduated first from the University of Maryland School of Pharmacy and later from the School of Medicine. He immediately returned to Greenville, later entering the specialty of ophthalmology.

CLASS OF 1905

Dr. Archibald Wright Graham, of Box 563, Chisholm, Minnesota, died October 18, 1965.

P & S 1905

Dr. William C. Stone, who served as health officer in Carroll and Howard Counties for more than sixty years, died on October 6, 1965. Dr. Stone was 85. Since 1924 he had lived in Westminster with his home and private medical offices at 121 East Green street. He left the State health post in 1951 but had maintained an active practice until his health failed early in 1965. He was a native of Vermont and came to study medicine at the College of Physicians and Surgeons, now a part of the University of Maryland School of Medicine. He served his internship at the St. Agnes Hospital, later serving in the same hospital as an assistant resident in medicine.

Dr. Clyde W. Vick of 2117 Jefferson Street, Bluefield, West Virginia, died on December 4, 1965 at the age of 87.

CLASS OF 1906

Dr. Orel Nathan Chaffee of 820 Sassafras street, Erie, Pennsylvania, died August 30, 1965 at the age of 89.

CLASS OF 1908

Dr. Charles William Cohn of Pittsburgh, Pennsylvania, died on August 15, 1965. Dr. Cohn was 79.

CLASS OF 1910

Dr. Thomas Dalton Crouch of Box 97, Stony Point, N. C., died on August 8, 1965 at the age of 87.

Dr. Harry R. Seelinger of 8920 Semmes avenue, Norfolk, Virginia, died May 2, 1965 at the age of 76.

Dr. Joseph Righton Robertson of 1968 Johns Road, Augusta, Georgia, died on February 5, 1966.

CLASS OF 1911

Dr. Abraham Hornstein of 204 East Biddle street, Baltimore, Md., died June 11, 1965. Dr. Hornstein was 77.

P & S 1911

Dr. Hermon Simons Miller of 609 Washington street, Wilmington, Delaware died on August 21, 1965 at the age of 76.

CLASS OF 1912

Dr. Silvia Jeremiah Roberts of 1432 North Second street, Harrisburg, Pennsylvania, died August 20, 1965 at the age of 80.

P & S 1912

Dr. Albert E. Goldstein of 3505 North Charles Street, Baltimore, died on February 22, 1966.

Dr. Goldstein, an internationally prominent urologist, long active in the affairs of

the School of Medicine and of the University as a whole, was honored by many friends prior to his death, after a lingering illness. Dr. Goldstein's obituary will appear in a forthcoming edition of the *Bulletin*.

CLASS OF 1913

Dr. Samuel Allen Alexander of 1830 Eye street in Washington, D. C., died on September 22, 1965. Dr. Alexander was 73.

Dr. William Walter Sirak of 1015 Carnegie avenue, Cleveland, Ohio, died July 20, 1965 at the age of 74.

CLASS OF 1914

Dr. George W. Bishop of Pasadena, Maryland, died on July 6, 1965. Dr. Bishop was 77.

P & S 1914

Dr. Byron W. Steele of Mullens, West Virginia, died on January 29, 1966. A native of Moundsville, West Virginia, Dr. Steele was actively engaged in the practice of medicine when he was stricken early in November of 1965.

Dr. Steele received his Bacheloriate Degree from Marshall University in 1910 and following his graduation was commissioned a First Lieutenant in the Army Medical Corps. He served in World War I in field hospitals in France. He then returned to Mullens, West Virginia where he remained as a practitioner until his death.

CLASS OF 1915

Dr. Vincent J. Demarco, of 1642 Poplar avenue, Memphis Tennessee, died October 27, 1965. Dr. Demarco was 73.

CLASS OF 1916

Dr. Foster A. Beck, 323 North 7th street, Allentown, Pennsylvania, died September 27, 1965.

Dr. Thomas M. Dominguez-Rubio, of 1 Baldorioty Street, Guayama, Puerto Rico, died October 24, 1963.

CLASS OF 1917

Dr. Clarence Mansfield Reddig (Col., Medical Corps, U. S. A.) retired, of 3 Red Cross avenue, Newport, Rhode Island, died April 24, 1965. Dr. Reddig was 72.

CLASS OF 1918

Dr. Clarence E. Macke of Ellicott City, Maryland, died on January 15, 1966.

A native and life long resident of Baltimore, Dr. Macke practiced pediatrics until his retirement in 1957. He worked closely with the Bureau of Recreation throughout his life and was a member of the Lutheran church.

Dr. Irwin O. Ridgely, of 202 Edgevale road in Baltimore, died on December 28, 1965. Dr. Ridgely was 73.

Dr. Ridgely was a native of Bartholows, Frederick county and was graduated from the Frederick County School and from Washington College. Following his graduation from the University of Maryland, he interned and later took postgraduate courses in surgery at the Mercy Hospital becoming ultimately an associate surgeon at both the Mercy and the University Hospitals. Dr. Ridgely, for many years associated with Drs. Henry F. Bongardt and Patrick C. Phelan, specialized in industrial surgery. He was a member of the Baltimore City Medical Society, the Medical and Chirurgical Faculty of Maryland, the American Medical Association and the Southern Medical Association. He also was a Fellow of the American College of Surgeons.

Dr. James Parks Rousseau of 808 Oaklawn avenue, Winston-Salem, North Carolina, died September 29, 1965. Dr. Rousseau was 69.

Dr. Frank Sabiston of P.O. Box 530, Kinston, North Carolina, died on June 17, 1965 at the age of 72.

CLASS OF 1920

Dr. Nathan J. Davidov of 3218 Eastern avenue, Baltimore, Md. died on November 25, 1965.

Dr. James William Skaggs of Nitro, West Virginia, died July 19, 1965 at the age of 68.

CLASS OF 1921

Dr. Harold C. Pillsbury, Sr. of 1800 North Charles street, died on January 12, 1966. Dr. Pillsbury was 67.

Dr. Pillsbury practiced both general and industrial surgery and was active on the staff of the St. Joseph's Hospital in Baltimore, the institution where he received his surgical training.

CLASS OF 1922

Dr. Lewis J. Doshay of 710 West 168th street, New York, died recently.

CLASS OF 1924

Dr. Jerome F. Granoff of 37-12 75th Street, Jackson Heights, New York, died November 8, 1965. Dr. Granoff was 64.

CLASS OF 1925

Dr. Leo T. Brown of 1621 New Hampshire avenue, N.W., Washington, D. C., died on January 14, 1966.

Dr. William Earl Lennon of 122 West Central avenue, Federalsburg, Maryland, died on December 31, 1965. Dr. Lennon was 67.

A native of Manteo, North Carolina and a graduate of the University of North Carolina, Dr. Lennon was engaged in general practice in Federalsburg since 1926.

CLASS OF 1926

Dr. Paul Eanet, a surgeon who received a congressional citation for his work with Selective Service System during World War II, died in Washington, D. C. on September 25, 1965, at the age of 62. Dr. Eanet served on the staffs of several hospitals in the District of Columbia.

CLASS OF 1927

Dr. T. Nelson Carey, Professor of Clinical Medicine at the University of Maryland and who was to receive the 1966 Alumni Annual Honor Award and Gold Key, died at Mercy Hospital on March 11, 1966 after a short illness. Dr. Carey's obituary will appear in a forthcoming edition of the *Bulletin.*

CLASS OF 1928

Dr. William H. Varney of 120 Belvedere avenue, Washington, New Jersey, died on January 10, 1966. Dr. Varney was 61.

He began practice in Washington, New Jersey shortly after his graduation from the School of Medicine and his internship at the University Hospital. Dr. Varney was a member of the American Medical Association, the International College of Surgeons, the Warren County (New Jersey) Health Board and was executive secretary of the Warren County Division of the American Cancer Society. He also served as a director of the Warren County Tuberculosis and Health Association.

CLASS OF 1929

Dr. Phillip P. (Paul) Cohen of 104 South Church street, Snow Hill, Maryland, died November 26, 1965.

CLASS OF 1931

Dr. H. Vernon Langluttig, formally a member of the staff of the University Hospital and at one time head of the chest division of the Baltimore City Hospitals, died on February 1, 1966 in Mt. Vernon, Missouri. Dr. Langluttig was 61.

A native of Baltimore and an alumnus of the Baltimore Polytechnic Institute, Dr. Langluttig received his Bacheloriate Degree from the Johns Hopkins University. Following his graduation from the School of Medicine he interned at St. Joseph's Hospital and served a residency in medicine at the University Hospital. He later became active on the teaching faculty rising to the rank of clinical professor of medicine. In 1942

he volunteered for military service and spent two years in the Fiji Islands. In 1957, he returned to the City Hospitals where he served as Chief until accepting a post of Chief of the Service of the Missouri Chest Center in Mount Vernon, Missouri.

CLASS OF 1934

Dr. Charles L. Goodhand of 1100 Market street, Parkersburg, West Virginia, died September 10, 1965 at the age of 58.

Dr. Milton Levin died on November 16, 1965 at the Lutheran Hospital of Maryland.

IT WAS my good fortune to have known Dr. Milton Levin since his student days. He was graduated from the University of Maryland in 1934. He did his internship at Lutheran Hospital, which at that time was known as West Baltimore General. He served three years as a house officer, completing his residency in surgery in 1938. This was followed by post-graduate work at the Philadelphia General Hospital. He was always a good student and made every effort to be informed of the latest advances in medicine. His professional life was dedicated to the practice of clinical surgery. To this he gave his whole being and unstintingly to his patients. He was never content with less than the best for his patients. The impressive qualities of Dr. Levin were his kindliness and humility. He was ever the solicitous servant to his patients. In addition to his feeling of professional responsibility he evidenced a personal concern for the overall welfare of his patients. This I can state from personal experience of his art and craft. In addition, he was interested in the administrative side of his profession. It was in this facet of medicine that he willingly devoted himself generously. In his executive positions he was guided by a sense of fairness and balance that was refreshing. When the occasion required, he could exhibit firmness and courage for the position he thought right. He practiced medicine as Job practiced his religion with the material reward being of the least concern. Truly he was a real image of the good doctor. His personal religion was to be "his brother's keeper." He was a devoted husband and father of two sons. His concern for his home could be best understood when he said at the time of his final stay at the hospital that he didn't think he'd see his home again.

His practice of surgery was limited entirely to the Lutheran Hospital. Truly it can be said that he personified the image of a "Good Shepherd." His passing will be a loss deeply felt by his loved ones, friends and patients.

LOUIS A. M. KRAUSE, M.D.

CLASS OF 1937

Dr. Mitchell F. Kunkowski of 2529 Eastern avenue died on December 25, 1965 at the age of 53.

A native of Baltimore and an alumnus of Lions College High School in Pennsylvania, Dr. Kunkowski later attended the University of Maryland and following his graduation from the School of Medicine served actively with the United States Army in World War II. He served his internship at the St. Joseph's Hospital and later studied internal medicine and served a residency at the Maryland General Hospital.

CLASS OF 1943

Dr. Joseph F. McMullin of 127 E. Edgewood drive, Stroudsburg, Pennsylvania, died on August 19, 1965 at the age of 49. Death was due to drowning.

Dr. E. Thornton Pfeil, Jr., died on August 20, 1965 at the age of 45. Death was caused by leukemia.

Dr. Pfeil, who lived at 2021 North Central Avenue in Phoenix, Arizona, was a native of Baltimore and received the Bachelor of Science degree from the University of Maryland and later his Doctor of Medicine degree from the same school graduating *Cum Laude* in the class of 1943.

Following an internship at the University Hospital, he completed his residency in neurosurgery under the joint directorship of Dr. Charles Bagly, Jr. and James G. Arnold.

For a period of time, Dr. Pfeil served as fellow in neuropathology. Upon completion of his residency, he was commisisoned in the Army of the United States attaining a rank of major. During his military service at the Letterman General Hospital and later he held the position of chief of neurosurgery at the Brooke Army Medical Center, San Antonio, Texas.

Dr. Pfeil was a member of many professional societies including the state and country societies, the American Medical Association, the Harvey Cushing Society, the American College of Surgeons, the American Board of Neurological Surgeons and the Congress of Neurological Surgeons including the Gold Headed Cane Club. Dr. Pfeil came to Phoenix in 1953 and was first associated with Dr. John Eisenbeiss and later with Dr. George Hoffman. He served as chief of neurosurgery at the Memorial and the Maricopa County General Hospitals and had staff membership in the St. Joseph's Hospital, Good Samaritan Hospital, St. Luke's, Lincoln, Mesa Southside and Doctors Hospital.

In a tribute to Dr. Pfeil published in the November 1965 *Arizona Medicine,* it is stated "Thorny had the gallantry of a knight, the persuasiveness of Cervantes, and the ebullience of the music man. Others remember him for his sportsmanship, some for his clubmanship and perhaps all of us for his professional activities, many and varied.

"If Harvey Cushing and his contemporaries are considered the founders of modern neurological surgery in this country, then Dr. Pfeil and his contemporaries would perhaps fall into the third generation thereafter. It is this group of neurosurgeons, with angiography and other similar procedures, who have had increased exposure to roentgen irradiation."

Not only was Dr. Pfeil an excellent and respected clinical surgeon but he had contributed abundantly to the scientific literature as well. A meticulous and precise technician, the practice of neurosurgery has indeed lost a most honored and valued member.

Dr. Pfeil is survived by his wife Virginia, a son, Edgar, and a daughter, Carolyn.

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C. D. FERRIS, D.Sc., T. W. MOORE, M.S., R. A. COWLEY, M.D.

Introduction

MOST INVESTIGATIONS of the role of frequency in successful defibrillation attempts have merely compared 60 cps. alternating current with direct current.[1, 2] The purpose of the research reported in this paper was to study the effect of frequency in general with respect to closed chest defibrillation. A series of experiments was carried out using 36 dogs and involving nearly 500 attempts at defibrillation. Disc electrodes measuring 7.5 cm. in diameter were placed on each side of the chest of the animals.

Defibrillation by electric shock is thought to be the result of complete tetanic contraction of all cardiac muscle fibers in response to a large shock. This is followed by a period of cardiac standstill and then by recovery of normal heart action, although in some cases an electronic pacemaker must be used to restore normal sinus rhythm. Since the achievement of an action potential ultimately depends upon the reduction of the charge differential across a membrane, it would seem that the magnitude and duration of the current applied at the membrane should be the most significant factors at any given frequency.[3, 4]

Experimenters who use direct current defibrillation methods [2, 5] measure energy expended rather than current, probably because the decaying nature of the current waveform prohibits the use of a convenient numerical value for the current amplitude. From our analysis of the data obtained with ac defibrillators and from an examination of the literature pertaining to dc defibrillators, we feel that total energy expended per se is not the determining factor for effective defibrillation. Energy expended as a function of time may show correlation with effective defibrillation. Measurement of expended energy introduces many artifacts such as variable electrode contact resistance and electrode polarization which may vary widely over a series of measurements. As a result of electrode polarization, there is a voltage drop at the electrode-electrolyte interface when current is drawn. Thus the voltage applied across the defibrillation electrodes measured at the electrodes is not the voltage applied across the chest of the animal. [5, 6] For these reasons, the decision was made to use current magnitude as an independent variable, since this may be measured easily, and to work with a fixed defibrillation pulse duration of 0.1 sec.

Results

The data were analyzed by the following technique: The experimental points

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(current reading as a function of frequency and success or failure of defibrillatory shock) were separated into five frequency ranges—below 80 cycles/second, 80-100 cps., 100-200 cps., 200-250 cps., 250-300 cps. For each range of frequencies, the percentage of successful defibrillation attempts at various current amplitude levels was calculated. Equal numbers of tests were made in each frequency range so that curves plotted from the data would have equal reliability over their extents. From these curves, the current levels which indicated 60% and 80% probability of successful defibrillation were determined. From these points, curves were then plotted showing current as a function of frequency for 60% and 80% confidence of successful defibrillation. These curves (Figs. 1 and 2) indicate that as frequency of the defibrillating signal is increased, increased current is required.

Lown and his co-workers[1] in 1962, using various capacitor discharge circuits, found that a 70 joule discharge gave 65% reliability of defibrillation. Balagot [7] reported good results with a dc defibrillator which supplied 80 joules into a 100 ohm resistive load. The results of our experiments, when extrapolated to zero frequency, are in close agreement with the values reported in the literature. In fact, our results indicate that slightly lower energy levels are required when low frequency alternating current stimulation is employed. Figure 3 indicates the energy required for successful defibrillation with a level of confidence of success with the first shock of 80%. The duration of the defibrillatory shock in all cases is 0.1 second and the magnitude of the impedance presented to the defibrillatory electrodes varies from 50 to 100 ohms, in part caused by the varying sizes of the experimental animals.

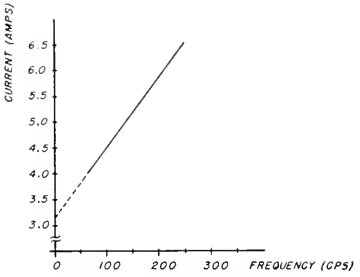

Fig. 1. Electrode current as a function of applied frequency for 80% confidence level of successful defibrillation.

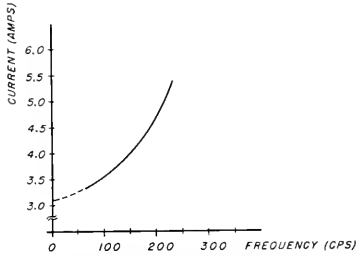

Fig. 2. Electrode current as a function of applied frequency for 60% confidence level of successful defibrillation.

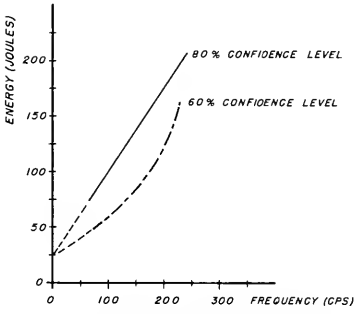

Fig. 3. Energy as a function of frequency for successful defibrillation.

To find power levels within the body during the application of a defibrillatory shock, disc electrodes were implanted in several animals. The electrical power level at the heart during the defibrillating signal was measured by suturing stainless-steel-wire crocheted electrodes (1.5 $cm.^2$) on opposing sides of the myocardium. Connections to these electrodes were brought out to the skin surface of the animal. The animal was permitted to heal for six weeks. By direct measurement, the impedance presented to the electrodes by the heart was found to be approximately 900 ohms at 60 cps. It was found that at 60 cps. (the usual frequency employed by ac defibrillators), less than 1% of the power applied at the chest surface appeared at the heart.

Appendix

All of the experimental animals were anesthetized using standard Nembutal I.V. Repeated injections were required to maintain an approximately constant level of anesthesia as the electric shocks counteracted the effect of the Nembutal.

Electrode contact problems were also investigated to learn their effect upon studies of this nature. Studies were conducted using saturated-saline-wetted electrodes applied to the skin directly, saturated-saline-soaked gauze pads between the electrodes and the skin surface, and standard electrode paste between the electrodes and the skin. Beforehand, the animal's skin had been prepared by shaving and cleansing with germicidal soap. The quality of the electrode contact was evaluated by measuring the impedance presented to the electrodes by the chest region of experimental animals under constant electrode pressure.

It was found that electrode paste gave the most unreliable and variable results. The smallest variation was found with the saline soaked gauze pads. The saline-wetted electrodes gave uniform results but a constant contact potential drop was noted. Higher impedance values were also noted in this last case.

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Tolnaftate, A Specific Antifungal Agent

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TOLNAFTATE (O-2-naphthyl m, N-dimethylthiocarbanilate), synthesized in 1960,[1] is the first chemical compound to have specific fungicidal activity on topical application. Initial clinical studies proved this drug to be effective in the treatment of superficial mycotic infections due to trichophyton rubrum, trichophyton mentagrophytes, trichophyton tonsurans, epidermophyton floccosum, microsporum canis, microsporum gypseum, microsporum audouini, and microsporum furfur.[2] Adverse effects to the topical applications of the 1.0% solution or 1.0% cream were not encountered in this investigation. Double blind studies confirmed the therapeutic efficacy of the tolnaftate preparations. In subsequent in vitro and in vivo studies[3,4] the spectrum, lack of toxicity, freedom from adverse reactions, and range of therapeutic specificity were demonstrated.

Lesions due to Candida albicans do not respond to local applications of the tolnaftate preparations. Tinea versicolor, tinea pedis, tinea cruris, and tinea corporis due to the previously mentioned dermatophytes respond promptly to treatment with this drug, but it is ineffective in onychomycosis and tinea capitis.

Tolnaftate is a colorless, odorless compound which is soluble in most organic compounds and insoluble in water. It does not stain skin, hair or nails. The solution contains 1.0% tolnaftate, and 0.1% butylated hydroxytoluene in polyethylene glycol 400. The cream contains 1.0% tolnaftate in a vanishing cream base.

This report contains the results of extended clinical trials and follow-up studies. In all patients the diagnoses were established by direct microscopic examinations and cultures. The importance of laboratory confirmation of clinical impressions cannot be overemphasized.

Three hundred twenty-three patients who had superficial mycotic infections were treated with 1.0% tolnaftate solution or cream (chart #1). These clinical trials and laboratory studies were conducted in the out-patient department of the University of Maryland Hospital and the author's private practice. In vitro studies showed tolnaftate to be ineffective against Candida albicans and this finding was confirmed by its therapeutic inefficacy in the management of cutaneous lesions due to this organism. Twenty-five patients with tinea capitis due to microsporum audouini and five with trichophyton tonsurans infections of the scalp did not respond to simple topical or occlusive dressing therapy with tolnaftate solution. Nail involvement did not respond. Interdigital lesions due to trichophyton rubrum, trichophyton mentagrophytes, and epidermophyton floccosum cleared in 7 to 14 days following initiation of tolnaftate therapy. In this type of lesion, griseofulvin is ineffective. Palmar and plantar lesions show a partial response to the

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Tolnaftate Study
Chart #1

Organism	Total No.	Treated With 1% Cream	Treated With 1% Solution	Sites Involved		Results Good	Results Poor
M. Furfur	56	24	32	Trunk	56	48	8
T. Rubrum	212	59	153	Hands Feet	69	54	15 palmar or plantar
				Groins only	67	67	0
				Trunk and Extremities	30	30	0
				Multiple Sites	42	42	42 nails only
				Nails only	4	0	4
T. Mentagrophytes	11	2	9	Feet	3		
				Trunk and Extremities	8	11	0
M. Canis	6	4	2	Trunk, Face Extremities	6	6	0
M. Audouini	26	1	25	Glabrous skin	1	1	0
				Scalp	25	0	25
T. Tonsurans	5		5	Glabrous skin	3	3	0
				Scalp	2	0	2
E. Floccosum	5	3	2	Trunk	2	2	0
				Groins	2	2	0
				Feet	1	1	0
C. Albicans	2		2	Groins	2	0	2

local applications of the tolnaftate preparations, but when the solution or cream was used alternately with a keratolytic ointment such as Whitfield's or 10% salicylic acid clearing was obtained. Excellent results were obtained in the treatment of 48 of the 56 patients who had tinea versicolor.

Trichophyton rubrum infections of the trunk and extremities responded to the topical applications of the tolnaftate preparations, regardless of the duration of the lesions. Interdigital eruptions due to the same fungus also cleared promptly. Patients were relieved from itching in from 24 to 72 hours. There were no instances of primary irritation or acquired hypersensitivity.

Follow-up studies were performed on 90 patients with various superficial mycotic infections who had been successfully treated with the tolnaftate preparations from 4 to 26 months prior to the recheck examinations (chart 2). Each patient was examined for evidence of a superficial fungus infection. Direct microscopic examinations and cultures were made from the previously infected sites.

Follow-up Study
Chart #2

Organism	Site Involved	Number Who Retained Remission	Longest Observation Period	Shortest Observation Period	Number Who Had Relapses	Shortest Time Before Relapse
			Months	Months		Months
T. Rubrum	Hands Feet	11	26	4	11	4
	Groins	15	24	6	11	5
	Trunk Extremities	4	24	4	3	4
	Multiple Sites	4	21	5	6	5
E. Floccosum	Feet	0	12	—	1	12
	Trunk	1	24	—	0	0
M. Canis	Trunk, Face Extremities	3	18	6	0	—
T. Mentagrophytes	Feet	1	12	12	0	—
	Trunk, etc.	3	18	4	0	—
M. Furfur	Trunk	2	13	4	14	4

Based on Follow-up of 90 Patients
Chart #3

Organism	Sites Involved	Longest Period of Remission	Shortest Period of Remission Without Relapse
T. Rubrum	Hands Feet	26 Months	4 Months
	Groins	24 Months	6 Months
	Trunk and Extremities	24 Months	4 Months
	Multiple Sites	21 Months	5 Months
E. Floccosum	Feet	6 Months	6 Months
	Trunk	24 Months	——
M. Canis	Trunk Face Extremities	18 Months	——
T. Mentagrophytes	Feet	12 Months	——
	Trunk, etc.	18 Months	——
M. Furfur	Trunk	13 Months	4 Months

The relapse rate, calculated on the basis of 90 patients, was as follows:

Infections due to T. rubrum	47.6%
E. floccosum	50.0%
T. mentagrophytes	0.0
M. canis	0.0
M. furfur	87.5%

The periods of remission (chart 3) before the redevelopment of subjective or objective symptoms ranged from 4 to 26 months. In every instance of relapse there was prompt response to retreatment with tolnaftate solution or cream. The relapse rate of cutaneous mycotic infections successfuly treated with tolnaftate is approximately the same as the relapse rate for those treated with griseofulvin.

Comment

Clinical and laboratory studies have established the fact that tolnaftate, in 1.0% solution or cream, is an efficient topical fungicidal agent which promptly relieves subjective symptoms and clears the lesions produced by the superficial dermatophytes. Its sole value lies in the treatment of mycotic infections and has no beneficial effect on concurrent cutaneous eruptions The results of in vitro studies are confirmed by clinical experience.

The preparations of tolnaftate have produced no evidence of primary irritation or acquired contact hypersensitivity. Animal studies revealed no evidence of toxicity even on systemic administration of exceptionally large doses.

The tolnaftate preparations, unlike griseofulvin, will produce complete involution of interdigital eruptions due to fungi. In view of the fact that many eruptions simulate mycotic infections on the feet, it is imperative to verify the diagnosis of a fungus infection by the proper laboratory methods. Dyshidrosis, shoe dermatitis, psoriasis, and eczematous eruptions are difficult to distinguish from fungus infections by the most experienced clinician. A clinical diagnosis alone is never sufficient justification for specific antifungal therapy.

The success obtained with tolnaftate topical therapy eliminates the necessity for systemic griseofulvin therapy except in hair or nail infections.

The relapse rate of patients with superficial mycotic infections successfully treated with tolnaftate preparations, based on a follow-up of 90 patients, is the same as that obtained with systemic griseofulvin treatment. Evidence of resistance to tolnaftate did not develop. Those patients who were successfully treated and suffered relapses responded to retreatment with the same preparations. The 1% solution and the 1% cream are equally effective.

Summary and Conclusions

1. Tolnaftate in 1% solution or cream applied topically is an effective antifungal agent in the treatment of eruptions due to Trichophyton rubrum, Trichophyton mentagrophytes, Trichophyton tonsurans, Epidermophyton floccosum, Microsporum canis, Microsporum gypseum, Microsporum audouini and Microsporum furfur.

2. Evidence of primary irritation or acquired contact sensitivity was not encountered in a series of 323 patients.

3. The preparation is ineffective in the treatment of eruptions due to Candida albicans or lesions in the scalp or nails due to the dermatophytes.

4. Laboratory diagnosis is mandatory because the drug is ineffective in the treatment of cutaneous entities other than mycotic infections.

5. The relapse rate of tolnaftate treated patients approximates the rate obtained with griseofulvin treated patients. Evidence of resistance did not occur and patients responded to retreatment with the topical compounds.

Dean's LETTER

Dear Students, Members of the Alumni, and Friends of the Medical School:

The Faculty Curriculum and Instruction Committee has been engaged in a continuing study of our curriculum and the quality of our instruction. As a part of this program about 100 faculty met on June 13th to 16th of this year to study the recommendations of the Committee for better integration of instruction and correlation of curriculum subjects.

As a result of this study the faculty has decided to change the curriculum starting with the entering class September 1966. The change will consist in less emphasis on departmental teaching and the utilization of faculty committees representing various departments to present an integrated teaching of the subject involved. For example, Neuro-anatomy will be presented from the structure and functional basis by a team of faculty representing Neuro-anatomy, Neuro-chemistry, Neuro-physiology, Neurology, Neuro-pathology and Clinical Pathology.

This method of teaching should result in a more thorough and stimulating program of instruction with less duplication of the subjects presented.

Sincerely,

WILLIAM S. STONE, M.D.
Dean

Ralph P. Truitt

1886-1966

Dr. Ralph P. Truitt, former Professor of Psychiatry in the School of Medicine, died June 23, 1966. Dr. Truitt was 80.

A former executive secretary of the Mental Hygiene Society of Maryland, he headed the Community Fund Agency, a national organization aimed to help the mentally ill, particularly children. Dr. Truitt was not only responsible for an emphasis on psychiatric help for children and jail inmates, but also played a large part in advancing psychiatry as a distinct medical field. It was while he was active on Faculty of the School of Medicine that Dr. Truitt initiated the idea of a psychiatric institute and laid the basic groundwork for its development. Indeed, it is quite likely that the institute would have developed under his personal supervision had not World War II interfered with its progress.

A native Eastern Shoreman, Dr. Truitt was born in Snow Hill, Maryland, and was graduated from Washington College in Chestertown prior to his entering the School of Medicine at the University of Maryland from which he graduated in the Class of 1910. After an internship at the University Hospital, he served as junior assistant physician at the New Jersey State Hospital in Trenton. In 1912, he returned to Baltimore to head the Department of Psychiatry at the City Hospitals. He later became resident psychiatrist at the Johns Hopkins Hospital as a student of the late Adolf Meyer. He then accepted a position as clinical director of the Louisiana State Hospital and became senior physician later at the New Jersey State Hospital. During World War I he served as a major in the Medical Corps. After four years as director of the Illinois Society for Mental Hygiene and assistant professor of neurology and psychiatry at the University of Illinois, he became director of the Child Guidance Clinic program of the Commonwealth Fund of New York City.

In 1927 he joined the staff of the School of Medicine and was associated with it for more than 23 years prior to his retirement.

Dr. Paul D. Coleman Named Associate Editor of *Bulletin*

Dr. Paul D. Coleman, Associate Professor of Physiology at the School of Medicine, has been named Associate Editor of the *Bulletin* of the School of Medicine. Dr. Coleman will assist in the preparation of special scientific articles concerning the development and highly important activities of a professional nature taking place in the School of Medicine. It is expected that he will prepare a series of articles concerning these important developments.

A graduate of Tufts University in the class of 1948, Dr. Coleman received his Doctor of Philosophy Degree at the University of Rochester in 1953. After a brief period of service in the United States Army, he served as assistant professor in the Department of Physiology at Tufts University and as an Associate at the Massachusetts Institute of Technology, Computer Center. He then was appointed a Special Fellow to Johns Hopkins University School of Medicine in the Departments of Anatomy and Physiology, joining the Staff of the School of Medicine of the University of Maryland in 1962. Dr. Coleman has been active in the development of educational programs at the School of Medicine serving as a member of the Curriculum Committee. He is the author of more than 22 articles of a professional nature dealing with basic science research in physiology and particularly with reference to the physiology of the nervous system.

Faculty NOTES

Department of Anatomy

Dr. Vernon E. Krahl, Professor of Anatomy, has just returned from Des Moines, Iowa, where he gave a series of guest lectures at the College of Osteopathic Medicine and Surgery. Dr. Krahl gave a convocation address to the Faculty and student body of the College on the subject "Neurovascular Control of the Peripheral Pulmonary Circulation." He also presented two seminars on the subjects: "Microanatomy of the Airways" and "Relationships of Peripheral Pulmonary Vessels to the Lung Parenchyma."

In June, Dr. Krahl attended the Fifth Annual Pulmonary Workshop at the Webb-Waring Institute of the University of Colorado Medical Center. There he presented his new motion picture film on living ciliated epithelium and a demonstration of the preparation and microscopic observation of ciliated epithelium in the gills of *Venus mercenaria*. He then attended the Ninth Annual Conference on Research in Emphysema at Aspen, Colorado, where by invitation he presented a paper entitled "Mechanisms Controlling the Peripheral Circulation of the Lung with some Clinical Correlations." Later, Dr. Krahl presented his film on ciliary activity.

From June 26th to July 2nd, 1966, he attended the Fourth European Conference on Microcirculation at Cambridge, England, where he presented a paper entitled "Further Studies on Perfusion of Pulmonary Alveolar Capillaries: the Effects of Exercise, Vagal Stimulation and of Adrenergic and Cholinergic Agents."

Dr. Krahl is emminently known for his basic studies in the finer anatomy and physiology of the lung.

Department of Medicine

Dr. William S. Spicer, Jr., Associate Professor of Medicine and head of the Division of Pulmonary Diseases, has been nominated to the Maryland State Board of Health. Dr. Spicer replaces Dr. J. Edmund Bradley who resigned following his retirement from the School of Medicine.

Department of Neurology

Dr. Richard F. Mayer, Associate Professor of Neurology, has received a grant from the Multiple Sclerosis Foundation to support his study of the manner in which multiple sclerosis and other related diseases damage the central nervous system.

Department of Pediatrics

Dr. Thomas Christensen, resident in pediatrics at the University Hospital during the 1930's and until recently a private practitioner in Prince Georges County, Maryland, died on May 3, 1966.

Department of Radiology

Dr. Fernando G. Bloedorn, Professor of Radiology at the School of Medicine, recently presented a paper entitled "Preoperative Irradiation" at a meeting of the Club International de Telecobaltherapie at Modena, Italy.

Dr. Gerald Wagger Appointed Assistant Director of Committee on Post-Graduate Courses

Dr. E. T. Lisansky, Chairman and Director of the Committee on Post-Graduate Courses, has announced the appointment of Dr. Gerald Wagger as his Assistant Director. Dr. Wagger will assume his responsibility as a part-time venture and will continue his work in the Department of Medicine as an

Assistant Professor in the division of Gastroenterology.

A graduate of the University of North Carolina School of Medicine, Dr. Wagger completed his residency at the University Hospital in 1965 and has served as an Instructor in Medicine in the Division of Gastroenterology for the past year. The Post-Graduate Committee will now be in a position to implement certain programs that were heretofore unfeasible because of inadequate personnel.

Faculty Participate in 1966 Spring Scientific Assembly of Maryland and D. C. Academies of General Practice

A number of Faculty members were active on the program of the Academy of General Practice Annual Meeting. These include Dr. Cyrus L. Blanchard who presented a paper entitled "Inflammation of the Ear, Nose and Throat," Dr. Keith C. Morgan spoke on "Acute and Chronic Inflammation of the Bronchial Tree," Dr. Arthur L. Haskins delivered a paper on "Female Pelvic Inflammatory Disease" and Dr. Robert T. Singleton, Director of the Cardio-Vascular Laboratory, spoke on "Inflammatory Conditions of the Heart and Vascular System."

Dr. John D. Young, Professor and head of the Department of Urology, spoke on "Inflammatory Conditions of the Genito-Urinary System," while Dr. Harry M. Robinson, Professor and head of the Department of Dermatology, spoke on "Common Inflammatory Disease of the Skin." This was supported by Dr. Merrill J. Snyder of the Department of Medicine who spoke on "Staphylococcal Septicemias." Dr. George N. Austin, head of the Department of Orthopedics, spoke on "Inflammatory Diseases of Bone and Joints." Dr. Samuel P. Bessman, Professor of Biochemistry, spoke on the subject "Diabetes Mellitus and Oral Hypoglycemic Agents."

Publications of Staff of School of Medicine 1964-1965

DEPARTMENT OF ANATOMY

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ALUMNI ASSOCIATION SECTION

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C. Parke Scarborough, M.D. *(ex-officio)*
D. McClelland Dixon, M.D.
James R. Karns, M.D.
Edward F. Cotter, M.D.

Representatives to General Alumni Council
Howard B. Mays, M.D. *(ex-officio)*

Representatives to Editorial Board, BULLETIN
To be named.

Representatives to Faculty Board
To be named.
(3-year term began June, 1965)
C. Parke Scarborough, M.D.
Howard B. Mays, M.D.

Alumni Day, May 6, 1966

The annual meeting and scientific program of the Medical Alumni Association was held in 1966 in conjunction with the bi-annual meetings of the University Hospital Medical and Surgical Associations which included the University of Maryland Medical Association, the Douglass Obstetrical and Gynecological Society, the Bradley Pediatric Society, and the University of Maryland Surgical Society. Scientific programs were under the supervision of committees of these organizations. Those registering for the Alumni Day activities included the following:

Class of 1908
Lester D. Norris

Class of 1910
John G. Runkel

Class of 1911 (P&S)
John F. Hogan **W. T. Gocke**

Class of 1914
Austin H. Wood

Class of 1915
W. R. McKenzie

Class of 1916

Geo. A. Bawden	**Chas. H. Lupton**
Edward H. Benson	**Geo. McLean**
Chas. R. Brooke	**Vincent J. Oddo**
B. Bruce Brumbaugh	**Guy R. Post**
Henry F. Buettner	**Chas. A. Reifschneider**
Michael E. Cavallo	**F. Fred Ruzicka**
Lucien R. Chaput	**Wilbur T. Shirkey, Jr.**
Harry Goldmann	**Maurice C. Wentz**
Bowers H. Growt	

Class of 1917
Louis Krause

Class of 1918
John M. Nicklas

Class of 1921
Thomas O'Rourk **F. S. Shubert**

Class of 1922
Joseph S. Stovin **T. N. Wilson**

Class of 1925
Samuel S. Glick **Joseph Nataro**

Class of 1926

John A. Askin
Margaret B. Ballard
Henry DeVincentis
David M. Helfond
Louis T. Lavy
H. E. Levin
Joseph Levin
Walter C. Merkel
William C. Polsue
Albert A. Rosenberg
William Schuman
Elizabeth Sherman
Frank Spano

Class of 1927

A. H. Finkelstein

Class of 1929

Leroy S. Heck
George H. Yeager

Class of 1930

Zack A. Owens
L. R. Schoolman

Class of 1931

E. I. Baumgartner
W. C. Boggs
Donald B. Grove
Samuel A. Feldman
K. M. Hornbrook
Abraham Karger
Max Kaufman
Walter Kohn
Jerome L. Krieger
Alston G. Lanham
Waldo B. Moyers
E. A. Schimunek
Wm. M. Seabold
Harry S. Shelley
Arthur G. Siwinski
Michael Skovron
R. A. Stevens
W. A. VanOrmer
Henry Wigderson

Class of 1932

Harry C. Hull
Arthur Karfgin
Louis F. Klimes
Stephen I. Rosenthal

Class of 1934

Robert W. Farr
Reuben Leass
John N. Snyder

Class of 1935

Edward F. Cotter
John Godbey
Josiah A. Hunt
Howard B. Mays
Karl F. Mech
L. K. Woodward, Jr.

Class of 1936

Milton Bernstein
Harry C. Bowie
McClelland Dixon
Wm. Greifinger
J. W. Gordner
Ben Isaacs
C. Henry Jones
W. E. Karfgin
Saul Karpel
Howard T. Knobloch
Louis J. Kolodner
Robert M. Lowman
W. K. Mansfield
James P. Morgan
Benjamin B. Moses
Jos. R. Myerowitz
S. D. Pentecost
Milton H. Stapen
Morris H. Stern
Isaac Terr
Lawrence Tierney
Gibson J. Wells
Nathan Wolf
Joseph G. Zimring

Class of 1937

S. T. R. Revell, Jr.
Thomas Abbott
Isadore Kaplan
C. Parke Scarborough

Class of 1938

John A. Wagner
T. E. Woodward

Class of 1939

Henry A. Briele
R. M. Cunningham
Wm. H. Kammer, Jr.

Class of 1940

Lester H. Caplan
Edwin O. Daue, Jr.
H. P. Maccubbin
Ross Z. Pierpont
Benj. H. Inloes, Jr.
James R. Karns
Solomon B. Zinkin

Class of 1941

Pierson M. Checket
LeRoy G. Cooper
Joseph V. Crecca
M. L. De Vincentis
Anthony F. Di Paula
Julius Gelber
T. F. Lusby
Ydalia Ortiz Freeman
C. E. Pruitt
Christian F. Richter
E. L. Seigman
E. P. Shannon
Joseph C. Sheehan
Tracy N. Spencer
J. H. Walker
Elizabeth B. Sherrill
John D. Young, Jr.

Class of 1943

Elizabeth Acton
Ruth Baldwin
H. B. Parry
David R. Will

Class of 1944

John M. Bloxom, III
R. C. Cloninger
R. A. Cowley
W. C. Ebeling
Donald Mintzer

Class of 1945

John M. Dennis
Joseph B. Ganey
Paul R. Myers
Stanley A. Steinbach

Class of 1946

Robert E. Bauer
Harold V. Cano
Thomas B. Connor
Paul E. Frye
John R. Gamble, Jr.
William D. Gentry
James J. Gerlach
H. William Gray
Duane Greenfield
Edwin O. Hendrickson
Jay Hansen
Charles W. Hawkins
Charles A. Hefner
Harry E. Hill
E. R. Jennings
Herbert J. Levickas
Raymond L. Markley
C. E. McWilliams
Earl R. Paul
John C. Rawlings
Ralph A. Reiter
R. C. Rossberg
F. A. Shallenberger, Jr.
Edward P. Smith, Jr.
James A. Sewell
Clint Stallard, Jr.
Leon Toby
James A. Vaughn, Jr.
Irl J. Wentz
Joseph Workman

Class of 1947

Arlie R. Mansberger
William R. Post
Jose G. Valderas

Class of 1948

George V. Hamrick
Katharine V. Kemp
Kyle Y. Swisher
Norman Tarr
William S. Womack

Class of 1949

Edmund B. Middleton

Class of 1950

Paul F. Richardson
Bate C. Toms, Jr.

Class of 1951

E. M. Beardsley
William G. Esmond
Charles K. Ferguson
F. Sidney Gardner, Jr.
Leo H. Ley, Jr.
Donald J. Myers
Mario Garcia-Palmieri
Henry D. Perry
H. Gray Reeves
C. P. Watson
H. P. Wheelwright

Class of 1952

Michael J. Foley
Richard Sindler

Class of 1953

William S. Kiser

Class of 1954

Robert S. Donoho — John F. Hartman
Robert B. Goldstein — Harold R. Weiss

Class of 1956

D. G. Anderson — John B. Littleton
Richard Belgrad — C. Patrick Laughlin
T. R. Carski — Gerald Maggid
James T. Estes — Joseph S. McLaughlin
R. A. Finegold — Lamont Osteen
Alfred W. Grigoleit — Gerald Shuster
Webb S. Hersperger — Paul V. Slater
Albert V. Kanner

Class of 1957

Milton L. Engnoth — Carl Jalenko, III
Vincent J. Fiocco, Jr. — David P. Largey

Class of 1958

Thomas Crawford — Philip J. Ferris
R. J. Donovan, Jr. — R. H. Johnson

Class of 1959

Robert J. Dawson — Hans R. Wilhelmsen
R. J. Thomas

Class of 1960

Neil A. Robinson

Class of 1961

Carl F. Berner — G. C. Kempthorne
Jams J. Cerda — Michael B. A. Oldstone
Francis A. Clark, Jr. — George E. Urban, Jr.

Class of 1962

Ian R. Anderson — George C. Schmieler

Class of 1963

Robert M. Byers — Philip A. Insley, Jr.

Class of 1964

Dominic H. Culotta — Marston A. Young

Class of 1965

Fred V. Cole, Jr. — A. H. Khazei

NON ALUMNI REGISTERED AT 1966 MARYLAND MEDICAL REUNION

Safuh Attar, Baltimore, Md.
Douglas R. Cain, Baltimore, Md.

John L. Atkins, York, Pa.
Paul M. DiGiorgi, New York, N. Y.

Samuel P. Bessman, Baltimore, Md.
Bahran Erfan, Randallstown, Md.

Emil Blair, Baltimore, Md.
Frank H. J. Figge, Baltimore, Md.

J. Edmund Bradley, Brewster, Mass.
Michael K. Finegan, Baltimore, Md.

Otto C. Brantigan, Baltimore, Md.
C. Thomas Flotte, Baltimore, Md.

Milton S. Grossman, Ellicott City, Md.
William B. Rever, Jr., Baltimore, Md.

E. H. LaBrosse, Ellicott City, Md.
Beverly L. Reynolds, Dallas, Texas

Yu Chen Lee, Baltimore, Md.
Allan Ronald, Seattle, Wash.

William D. Lynn, Baltimore, Md.
G. Edward Simons, Jr., Seattle, Wash.

Fitzhugh Mullins, Louisville, Ky.
Conover Talbot, Chicago, Ill.

Neil Novin, Baltimore, Md.
Jose Valdes, Cumberland, Md.

Fausto M. Prezioso, Timonium, Md.

The program began officially at 8:45 A.M. on Friday, May 6, 1966 with the welcoming address by Dr. William S. Stone and an address entitled "Medicare" delivered by Mr. Robert M. Ball, Commissioner of the Social Security Administration, an address of great interest to the visiting physicians present. This was followed immediately by sectional scientific sessions, the morning being concluded with the annual alumni business meeting in Chemical Hall with Dr. C. Parke Scarborough, President of the Medical Alumni Association, presiding. At this meeting, it was intended to present the Annual Award to Dr. T. Nelson Carey; however, President Scarborough announced that he had had the honor of presenting the medal to Dr. T. Nelson Carey at his bedside in the Mercy Hospital before Dr. Carey died. A moment of silence was observed.

This was then followed by the minutes of the previous meeting, the financial report and the annual election of officers. Dr. Howard B. Mays succeeded to the presidency.

Minutes of Annual Meeting

The annual meeting of the Medical Alumni Association, University of Maryland took place in Chemical Hall on May 6, 1966. The meeting was called to order by the President, Dr. C. Parke Scarborough, who welcomed back the members of the Alumni Association. He reported briefly on the condition of the Association, stating that the Association is now in a posiion to and are making plans for setting up a long hoped for Curriculum Vitae. The Board of Directors are making new plans for reunions at meetings about the country in connection with Medical and Scientific Meetings. It is believed that the biennial

CAMERA VIEWS ALUMNI WEEK 1966

Drs. Robert Farr, Arthur Karfgin, and Lewis K. Woodward.

Dr. C. Parke Scarborough, Mr. Robert M. Ball, Commissioner of Social Security, and Dean Stone.

L to R: Drs. Theodore Kardash, Wm. H. Triplett, Wm. S. Stone, W. E. Karfgin, and C. P. Scarborough.

Dr. C. Parke Scarborough, President, addresses Alumni.

Drs. William R. Post and Louis A. M. Krause

Dr. C. Parke Scarborough congratulates incoming President, Howard B. Mays. Dr. James A. Vaupe, Jr., observes.

Drs. Theodore Kardash, Howard B. Mays, John O. Sharrett, and W. E. Karfgin.

meetings with the Hospital Societies are working out very successfully. Dr. Scarborough also stated that the Board of Directors has been working diligently.

Dr. Scarborough introduced Dean William S. Stone who emphasized the relationship between Administration and the Alumni Association. He believes we are developing a relationship that is needed. The University is going forward in a tremendous way and is now the tenth largest in the USA. The campus in Catonsville will in the near future have an enrollment of 25,000. Our relationship must be very close. At the moment a Dean of the Graduate School at College Park is being selected. Dean Stone feels that all this planning is proceeding in a healthy way. He hopes that the Alumni will work along with Administration.

The Treasurer's Report was given by Dr. Karfgin who was happy to announce that we are on solid ground financially. On Alumni Day, June 3, 1965, he had announced that at the beginning of that fiscal year May 1, 1965, we had in our checking account at Maryland National Bank $ 1,644.31
in our savings account at Maryland National Bank 5,176.40
in our funded reserve at Eutaw Savings Bank 16,524.88
and in our Student Loan Fund at Balto. Fed. Sav. & Loan 1,555.27
as well as Petty Cash in the amount of 75.22

A total of $24,976.08 plus
student loans receivable in the amt. of 4,900.30

which together total $29,876.38

At the close of the fiscal year, April 30, 1966 we have the following to report:
in our checking account at Maryland National Bank $12,833.48
in our savings account at Maryland National Bank 12,358.93
in our funded reserve at Eutaw Savings Bank 18,306.71
in our Student Loan Fund at Balto. Fed. Sav. & Loan 1,720.04
as well as Petty Cash in the amount of 50.00

A total of $45,269.16 plus
student loans receivable in the amt. of 4,900.30

which together total for the end of this fiscal year $50,169.46

His report went on to explain that a great part of this money came in recently to pay for banquet and Alumni Day affairs. However the number of paid up members of the Association exceeds the number paid on this date on our previous best year.

Dr. Scarborough congratulated both our present and past treasurers for their excellent efforts and results.

At the request of Dr. Scarborough the Necrology was read by Dr. William H. Triplett which began with the following poem, most appropriate:

When I have bided here my little while,
Serving my day as destiny hath planned,
In my own way as best I understand,
May I go calmly to my last deep sleep,
And as the purple shadows o'er me creep
Behold the Great Eternal with a smile;
And may that smile be as a Good Night's kiss
To loves that know no better world than this.

—Selected.

NECROLOGY ROSTER

Kemp, Howard M.	BMC 1911
Hornstein, Abraham	1911
Quinn, John Francis	BMC 1906
O'Connor, Michael J.	BMC 1906
Bamberger, Beatrice	1931
Schmuckler, Jacob	1926
Doyle, John Henry	P&S 1902

Gill, Joseph Edward		1949
Zeiger, Samuel		1930
Reddig, Clarence M.		1917
Coleman, Joseph		1904
Mullan, Eugene H.		1903
Murgatroyd, George W.	BMC	1910
Gantt, Harry B., Jr.		1909
Bulla, Jefferson D.	P&S	1888
Gallagher, William E.		1917
Reiger, Ernest M. G.	P&S	1915
Sabiston, Frank		1918
Bishop, George W.		1914
Seelinger, Harry R.		1910
Harold, John A.	P&S	1903
Graham, Archibald W.		1905
Skaggs, James W.		1920
Sirak, William W.		1913
Cohn, Charles W.	P&S	1908
Quintero, Ernesto		1920
Chaffee, Orel N.	P&S	1906
Goodhand, Charles L.		1934
Goldstein, Albert E.	P&S	1912
Carey, T. Nelson		1927
Vick, Clyde W.	P&S	1905
Lehnert, Ernest C.		1902
Stonestreet, Washington W.		1906
Smith, Ziba L.	P&S	1906
McConnell, Harvey R.		1924
Russell, John C.		1935
Riddick, Willard J.		1905
DeCormis, Joseph L.		1903
Kirk, George B.	BMC	1898
Cafritz, Edward A.		1918
Lopez, Boccanegra		1916
LeBlanc, William	P&S	1905
Schumacher, Fred C.	P&S	1905
Miller, George A.	P&S	1905
Roberts, Silvia J.	P&S	1912
McMullan, Joseph F.	(Dec.)	1943
Pfeil, E. Thornton	(Dec.)	1943
Levin, Milton		1934
Beck, Foster A.		1916
Cohen, Phillip P.		1929
Doshay, Lewis J.		1922
Davidov, Nathan J.		1920
Crouch, Thomas D.		1910
Lewis, Taylor		1904
Kunkowski, Mitchell F.		1937
Ridgely, Irwin O.		1918
Lennon, William E.		1925
Alexander, Samuel A.		1913
Houston, Robert E.		1904
Miller, Herman S.	P&S	1911
Eanet, Paul		1926
Rousseau, James P.		1918
Varney, William H.		1928
Demarco, Vincent J.		1915
Winslow, Fitz R.		1906
Macke, Clarence E.		1918
Pillsbury, Harold C.		1921
Brown, Leo T.		1925
Stone, William C.	BMC	1903
Dominguez, Thomas M.		1916
Steele, Byron W.	P&S	1914
Langeluttig, H. Vernon		1931
Granoff, Jerome F.		1924
Robertson, Joseph R.		1910

The president asked Dr. Gibson J. Wells to read the report of the Nominating Committee, and this report follows: John O. Sharrett, M.D., President-elect, Benjamin M. Stein, M.D., Vice-President, Patricia Dodd, M.D., Vice-President, Raymond M. Cunningham, M.D., Vice-President, Walter E. Karfgin, M.D., Treasurer, Theodore Kardash, M.D., Secretary, Wilford H. Townshend, Jr., M.D., Member of Board of Directors, W. Kenneth Mansfield, M.D., Member of Board of Directors, and John C. Dumler, Sr., Member of Board of Directors. The president asked that this report be accepted. A motion was made, and seconded that the secretary cast a ballot for these nominees. Motion carried unanimously.

The president asked for nominations from the floor for three members of the Nominating Committee to select nominees for next year. Dr. D. McClelland Dixon, Dr. James R. Karns, and Dr. Edward F. Cotter were nominated and a motion was made that nominations be closed. Motion was seconded and carried unanimously.

Dr. Scarborough called for the report of the Student Loan Committee. Dr. Gibson J. Wells' report follows:

May 6, 1966

Subject: Report of Student Loan Fund Committee, To: Annual Business Meeting

1. The Student Loan Fund was established in its present form in 1958. Loans are made only upon recommendation of the Dean's Committee on Scholarships and Loans, and approval by the Medical Alumni Association Student Loan Committee.

2. The recipient is not required to execute any note or other evidence of legal obligation but does acknowledge, over his

signature, that a loan in the amount of (X) dollars has been received and a moral obligation is thus assumed.

3. To date there has been received from donors to the Fund a total of $6,309.71 and a total of $310.63 interest has been earned and credited which totals receipts of $6,620.34.

4. Loans, 14 in number, have been made to 13 individuals totaling $4,900.30 which leaves a balance in the Fund of $1,720.04.

5. The first loan was made April 27, 1959 and the last, October 25, 1963. One recipient has made inquiry relative to repayment and has been fully advised concerning the simple procedure of remittance but as of the date of this report all loans are still oustanding.

6. It is apparent that the liberality of our federal government with loans is more attractive to our student body in need of financial asistance and this is probably due to the fact our Fund has a fixed maximum of $500.00.

7. A loan guaranteeing first semester tuition has been approved and will be delivered upon application.

GIBSON J. WELLS, M.D., *Chairman*
FRANK K. MORRIS, M.D.
MAURICE REESE, M.D.

Now the time arrived when the Honor Award is usually presented. Dr. Scarborough read the reply received from Dr. T. Nelson Carey when he was informed that he had been chosen to receive this award. He then reminded the members present of the quality of greatness that Dr. Carey possessed and of the significant service he had given his school. He said, "Dr. Carey has been called a doctor's doctor and he has possibly been physician to more Baltimore doctors than any man in Baltimore." He then told the story of the presentation made to Dr. Carey the day before his death occurred. Dr. Carey showed it to all who came in that day and Mrs. Carey showed it to others.

A memoriam written by Dr. William H. Triplett at the request of the Board of Directors was read.

In Memoriam

In the passing of Dr. T. Nelson Carey the silent hall of Death received a kind, considerate physician, one loved by his patients and friends, and his professional associates lost a revered and loyal teammate.

The interests and activities of Dr. Carey covered a wide range. Although burdened with a progressive physical handicap his courage and determination was sufficient to carry him forward into a busy private practice together with extensive hospital work, and closely allied with these, both in time and space, his ever present interest in teaching both undergraduates and house officers.

The foundation upon which he built a useful life was made up of many different segments chief among them being intelligence, courage, compassion, understanding, honesty, sincerity, benevolence and loyalty. With it all his sense of humor was never failing and a ready smile of greeting an index to his character.

Posterity will give its proper meed of praise to Nelson Carey. The good deeds he spread over his chosen field will live on.

Members stood again to express their great appreciation of this, our recipient of the 1966 Honor Award.

An announcement was made to the effect that when the 1,000 copies of *A University Is Born* by Dr. Margaret B. Ballard are sold there will be no more available. All were asked to get their copies before leaving the city.

Election of officers took place, the secretary being asked to cast a unanimous ballot for all of the nominees presented earlier by the nominating committee.

THEODORE KARDASH, M.D.
Secretary

Following the Annual Meeting of the Medical Alumni Association, the customary noon luncheon was served to visitors. A cocktail party was held at the Lord Baltimore Hotel, followed by the annual Alumni banquet.

TREASURER'S REPORT OF ALUMNI ASSOCIATION, 1966

Annual Financial Statement - May 1, 1965 - April 30, 1966

Opening Balance, May 1, 1965:

Maryland National Bank —(Checking Account)	$ 1,644.31	
Maryland National Bank —(Savings Account)	5,176.40	
Eutaw Savings Bank —(Funded Reserve)	16,524.88	
Baltimore Federal Savings & Loan (Student Loan Fund)	1,555.27	
BALANCE IN BANKS		$24,900.86
Plus Student Loans Receivable		4,900.30
		$29,801.16

Receipts Deposited, May 1, 1965 - April 30, 1966

Dues	$19,567.00	
BULLETIN	8,379.00	
Alumni Day—Includes parts of 1965 and 1966	5,310.50	
—Ladies' Tours (all 1966)	217.00	
Interest and Dividends	929.13	
Individual Contributions	1,915.00	
Miscellaneous	293.02	$36,611.65
		$66,412.81

Disbursements, May 1, 1965 - April 30, 1966

Salaries—Mrs. Girkin	$ 3,178.52	
—Extra Help	227.64	
BULLETIN	5,000.00	
District Director Internal Revenue	922.01	
Comptroller, State of Maryland	114.66	
Printing and Office Supplies	482.73	
Postage	1,070.40	
Alumni Day	4,532.66	
Honorarium	500.00	
Miscellaneous	214.73	$16,243.35
Closing Balance for April 30, 1966		$50,169.46

Closing Balance, April 30, 1966

Maryland National Bank—(Checking Account)	$12,833.48	
Maryland National Bank—(Savings Account)	12,358.93	
Eutaw Savings Bank —(Funded Reserve)	18,306.71	
Baltimore Federal Savings & Loan (Student Loan Fund)	1,720.04	
Petty Cash	50.00	
BALANCE IN BANKS	$45,269.16	
Plus Student Loans Receivable	4,900.30	
		$50,169.46

Pre-commencement and Dean's Day

Ceremonies honoring the Class of 1966 featured the Pre-commencement Convocation of the 159th year of the School of Medicine held on the campus at 2 P.M., Friday June 3, 1966.

Following the academic procession, the Invocation was delivered by Dr. James C. Thomson, Jr., Campus Ministry Coordinator. Dr. Albin O. Kuhn, Vice President of the University for the Baltimore Campuses, delivered a brief greeting to the graduating classes, this being followed by vocal selections by the Glee Club of the School of Nursing.

Dean Stone then presented a group of candidates for academic Honors which are listed below:

Dr. Leonard M. Hummell Memorial Award, Gold Medal—Outstanding qualifications in Internal Medicine

Kurt Porter Sligar

Dr. A. Bradley Gaither Memorial Prize, for excellence in Genito-Urinary Surgery

Albert Truman Miller

Robinson Dermatologic Award—For excellence in Dermatology

Irvin Murray Sopher

Dr. Milton S. Sacks Memorial Award—For excellence in Medicine and Hematology

Harry Louden Kiracofe

Student Council Keys

Charles Henry Classen
Dwight Norbert Fortier
Franklin Leroy Johnson
Richard Malcolm Susel

Student Council Certificates

James Edward Arnold
Charles Henry Classen
Dwight Norbert Fortier
Franklin Leroy Johnson
Richard Malcolm Susel

Students Elected to Alpha Omega Alpha

Kurt Porter Sligar, *President*
Stuart Howard Yuspa, *Vice-President*
Sandra Lee Zucker, *Secretary-Treasurer*
Arnold Saul Blaustein
William David Ertag
Richard Leroy Flax
George Edward Gallahorn
Stephen Barry Hameroff
William Orville Harrison
Larry Travis Ingle
Harry Louden Kiracofe
Raymond Edgar Knowles, Jr.
Ronald Howard Koenig
Joel Arnold Krackow
Michael Jay Rokoff
Irvin Murray Sopher

Following the award of honors the students' wives were presented with the customary Mrs. M.D. citation.

As part of the Precommencement Exercises, Mr. William J. Wiscott, Managing Editor of the BULLETIN, was presented for a citation by the School of Medicine, the citation being reproduced herewith.

Dean Stone then presented Mr. Wiscott with a silver tray inscribed as follows:

Presented to William J. Wiscott, Managing Editor, Bulletin, School of Medicine, University of Maryland in appreciation of his efforts and thought in behalf of the School of Medicine. Given by the Faculty, March 6, 1966.

The hooding ceremony then followed culminating with the taking of the solemn Oath of Hippocrates administered by Dean Stone. The principal address was delivered by the Reverend Donald C. Kerr, Minister, Roland Park Presbyterian Church. Members of the Class of 1966 and their internships are as follows:

Class of 1966 Begins Procession from Davidge Hall.

Class of 1966 Takes the Oath of Hippocrates.

Dean Stone, Mrs. Wiscott and Mr. Wiscott.

Dr. Donald C. Kerr and Dean Stone.

Class of 1966 Internships

Abramowitz, Leslie
Sinai Hospital, Baltimore, Md.

Acker, Diane L. K.
St. Lukes Hospital, New York, N. Y.

Arnold, James E.
University Hospital, Baltimore, Md.

Bard, Richard H.
Cincinnati General Hospital, Cincinnati, Ohio

Baron, Robert B.
Mount Zion Hospital, San Francisco, Calif.

Barrash, Jay M.
Mercy Hospital, Baltimore, Md.

Blaustein, Arnold S.
University of Chicago Clinics, Chicago, Ill.

Bosley, William R.
Strong Memorial, Rochester, N. Y.

Braunohler, Walter M.
Monmouth Medical Center, Long Branch, N. J.

Brotman, Sheldon I.
State U. Kings Co. Med., Brooklyn, N. Y.

Brous, Philip P.
Mary Fletcher Hospital, Burlington, Vt.

Brown, Mark
Royal Victoria Hospital, Montreal, Canada

Brownlow, Wilfred J.
Naval Hospital, Bethesda, Md.

Bruther, William F.
South Baltimore General Hospital, Baltimore, Md.

Buchness, Michael P.
Public Health Service, Staten Island, N. Y.

Carty, James W., Jr.
Union Memorial Hospital, Baltimore, Md.

Clarke, Dana
Syracuse Upstate Medical Center, Syracuse, N. Y.

Classen, Charles H.
Union Memorial Hospital, Baltimore, Md.

Cohen, Arthur
Prog IV George Washington, Washington, D. C.

Cohen, Ora R.
Jackson Memorial, Miami, Fla.

Collins, Hammond C.
New England Center, Boston, Mass.

Cook, David M.
Parkland Memorial, Dallas, Texas

Cost, Francis H., Jr.
Mercy Hospital, Baltimore, Md.

Costleigh, Robert P.
Swedish Hospital, Seattle, Wash.

Crist, Henry S.
Harrisburg Hospital, Harrisburg, Pa.

Dvoskin, Philip B.
Mercy Hospital, Baltimore, Md.

Ellis, Michael A.
Mercy Hospital, Baltimore, Md.

Ertag, William D.
Montefiore Hospital, New York, N. Y.

Fine, Stuart L.
University Hospital, Baltimore, Md.

Flax, Richard L.
University Hospitals, Cleveland, Ohio

Fleming, Gary A.
South Baltimore General Hospital, Baltimore, Md.

Fortier, Dwight N.
Mercy Hospital, Baltimore, Md.

France, Joseph M., Jr.
Mercy Hospital, Baltimore, Md.

Gallahorn, George E.
Bellevue 3rd 4th Medical, New York, N. Y.

Gattis, Bruce W.
Bernalillo County, Albuquerque, N. M.

Gerber, S. Bruce
Mercy Hospital, Baltimore, Md.

Gersten, Kenneth C.
Public Health Service, Staten Island, N. Y.

Glass, Richard S.
Army Medical Service Hospital, Brooke General Hospital

Goldberg, Marshall C.
Public Health Service, Boston, Mass.

Golladay, Donald E., Jr.
Naval Hospital, Oakland, Calif.

Gombart, Augustin K.
Harrisburg Hospital, Harrisburg, Pa.

Gordon, Dennis H.
U. Utah Affil. Hospital, Salt Lake City, Utah

Gordon, Stephen F.
Sinai Hospital, Baltimore, Md.

Green, John G.
Mercy Hospital, Baltimore, Md.

Grenzer, Louis E.
Mercy Hospital, Baltimore, Md.

Griffin, Dean H.
Maryland General Hospital, Baltimore, Md.

Hameroff, Stephen B.
South Baltimore General Hospital, Baltimore, Md.

HANEY, MICHAEL J.
Grady Memorial Hospital, Atlanta, Ga.

HANSON, I. RIVERS, JR.
York Hospital, York, Pa.

HARRISON, WILLIAM O.
Naval Hospital, Oakland, Calif.

HAWKINS, JAMES M., JR.
Memorial, Long Beach

HILL, THOMAS M.
York Hospital, York, Pa.

HOSICK, ELIZABETH C.
Albany Hospital, Albany, N. Y.

INGLE, LARRY T.
University of Alberta, Edmonton, Canada

JOHNSON, FRANKLIN L.
University Hospital, Baltimore, Md.

KIRACOFE, H. LOUDEN
University Hospital, Baltimore, Md.

KNOWLES, RAYMOND E., JR.
Mercy Hospital, Baltimore, Md.

KOENIG, RONALD H.
Montefiore Hospital, New York, N. Y.

KOSKINEN, KENNETH R.
Maryland General Hospital, Baltimore, Md.

KRACKOW, JOEL A.
Bellevue 2nd Medical Division, New York, N. Y.

KRAMER, LLOYD I.
Sinai Hospital, Baltimore, Md.

LEIBOWITZ, ROBERT E.
Grady Memorial Hospital, Atlanta, Ga.

LONG, ELMER C., JR.
Allentown Hospital, Allentown, Pa.

MACHIZ, STEPHEN
Jackson Memorial Hospital, Miami, Fla.

MANN, JOHN H.
Monmouth Medical Center, Long Branch, N. J.

MARCUS, JOSEPH B.
Ochsner Foundation, New Orleans, La.

MAREK, WILLIAM J.
South Baltimore General Hospital, Baltimore, Md.

MASON, WILLIAM T.
Mercy Hospital, Baltimore, Md.

MATTSSON, CARL A.
Thomas D. Dee Memorial, Ogden, Utah

MCCAFFREY, JANE C.
University Hospital, Baltimore, Md.

MILLER, ALBERT T.
South Baltimore General Hospital, Baltimore, Md.

MONFRIED, ALLAN J.
Sinai Hospital, Baltimore, Md.

MUSIC, STANLEY I.
University Hospital, Baltimore, Md.

OLDROYD, JOHN J.
Army Medical Service Hospital, Walter Reed General Hospital

OMINSKY, BARRY E. L.
Mercy Hospital, Baltimore, Md.

ORFUSS, CARL J.
Jackson Memorial, Miami, Fla.

PASS, CAROLYN J.
Public Health Service, Baltimore, Md.

PATRICK, GEORGE S.
St. Agnes, Baltimore, Md.

PLOTNICK, GARY D.
University Hospital, Baltimore, Md.

PRESS, SAMUEL E.
Kaiser Foundation, San Francisco

QUINLAN, JAMES A., JR.
Mercy Hospital, Baltimore, Md.

RAINE, DUDLEY A., JR.
Baltimore City Hospitals, Baltimore, Md.

RAWLINGS, NINA C.
Maryland General Hospital, Baltimore, Md.

REED, RICHARD H.
South Baltimore General Hospital, Baltimore, Md.

RIVERA-RIVERA, ERNESTO
University of Puerto Rico, Rio Piedras, Puerto Rico

ROKOFF, MICHAEL J.
Mercy Hospital, Baltimore, Md.

SCHWARTZ, DAVID S.
Union Memorial Hospital, Baltimore, Md.

SERRITELLA, ALFRED A.
Presbyterian St. Lukes, Chicago, Ill.

SHUGER, RICHARD D.
Mercy Hospital, Baltimore, Md.

SIPLE, DONALD J.
San Francisco Hospital, San Francisco, Calif.

SLIGAR, KURT P.
University Hospital, Baltimore, Md.

SOPHER, IRVIN M.
University Hospital, Baltimore, Md.

SPENCE, JAMES W.
III Surg., Boston University, Boston, Mass.

STEERS, JOHN E.
York Hospital, York, Pa.

STEINBAUER, DAVID J.
South Baltimore General Hospital, Baltimore, Md.

STERN, JACK I.
I & III Med., Tufts, Boston, Mass.

STIER, JEFFREY S.
Beth Israel Hospital, New York, N. Y.

STRAM, ROBERT A.
Mary Fletcher Hospital, Burlington, Vt.

SUSEL, RICHARD M.
Public Health Service, Baltimore, Md.

SWAN, BERESFORD M.
South Baltimore General Hospital, Baltimore, Md.

TRATTLER, HENRY L.
Jackson Memorial Hospital, Miami, Fla.

WITTMANN, STEPHEN J.
Mercy Hospital, Baltimore, Md.

YOUNG, ROBERT R.
York Hospital, York, Pa.

YUSPA, STUART H.
University of Pa. Hospital, Philadelphia, Pa.

ZALEWSKI, ANDREW A.
State U. Kings Co. Med., Brooklyn, N. Y.

ZIMMERLY, JAMES G.
Army Service Hospital, Walter Reed General Hospital

ZUCKER, SANDRA L.
University Hospital, Baltimore, Md.

On June 4, 1966, formal graduation exercises were held at College Park with the awarding of diplomas. Members of the Class of 1966 then departed for their internships following a short vacation.

BULLETIN *School of Medicine*
University of Maryland

VOLUME 51 OCTOBER, 1966 NUMBER 4

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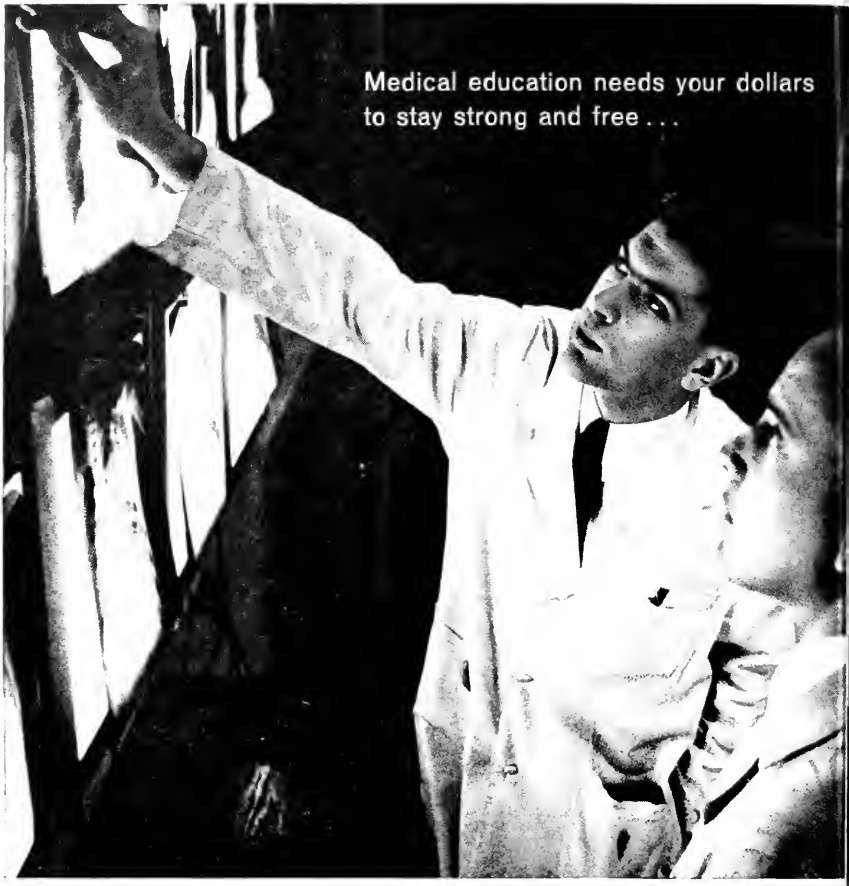

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Chloramphenicol Treatment of Pyogenic Meningitis*

HORNICK, R. B., M.D., GALLAGER, L. R., M.D., RONALD, A. R., M.D., ABDULLAH, J., M.B.B.S., KHAN, M.A., M.B.B.S., M.R.C., KHAN, I., M.B.B.S., HASSAN, S., M.B.B.S., MESSER, J., Ph.D., SHAFI, M. J., M.B.B.S., ZAHEER, UD-DIN, M.B.B.S., and WOODWARD, T. E., M.D., F.A.C.P.

IN 1954, we reported that chloramphenicol effectively cured patients with influenzal, meningococcal, pneumococcal and other forms of meningitis when given early in the course of infection. (Parker *et al.* 1955.) It failed as had other antibiotics when given late in illness after irreversible tissue changes had ensued. Deaths in seven of 111 patients treated were attributed to treatment delay in the presence of stupor, coma, and extensive tissue changes.

Regimes providing multiple anti-bacterial drugs have been advocated for patients with influenzal, meningococcal and pneumococcal meningitis. (Swartz *et al.* 1965.) Other investigators have used sulfonamides or penicillin solely for meningococcal infections (Dingle *et al.* 1941 and Lepper *et al.* 1952), penicillin alone for pneumococcal meningitis (Swartz *et al.* 1965 and Lepper *et al.* 1951), and chloramphenicol in influenzal meningitis. (Schoenbach *et al.* 1952 and McCrumb *et al.* 1951.)

Our thesis, expressed a decade ago, is unchanged since we are not convinced that multiple drugs are necessary for most cases of meningitis as advocated generally. Our regimen has consisted solely of chloramphenicol, in adequate doses, for treatment of most patients with pyogenic meningitis. The antibiotic exerts a wide range of antibacterial action and penetrates readily into the cerebrum and meninges. (Woodward *et al.* 1958.) Many therapists agree that chloramphenicol is a potent drug for treatment of meningitis and include it in recommended multi-antibiotic regimens. (Swartz *et al.* 1965, Alexander *et al.* 1953, Smith *et al.* 1953, Petersdorf *et al.*) Obviously, if one antibiotic cures effectively there is no need for exposure to additional drugs. Cure cannot be compounded.

Our experience has developed slowly because of a relatively low incidence of meningitis on our service; the current trend to treat febrile patients with various antibiotics reduces the number of acceptable cases. This report describes the results of chloramphenicol therapy in patients with meningitis caused by *Diplococcus pneumoniae, Neisseria intracellularis,* as well as a few miscellaneous and unclassified types.

Methods of Study

Selection of Cases: Twenty-eight of 43 patients in the chloramphenicol group were hospitalized at the University of Maryland, Baltimore, Maryland, the

* From the Department of Medicine and the Institute of International Medicine, University of Maryland School of Medicine, the Children's Hospital of the Fatima Jinnah Medical College, Lahore, and the East Medical Service, Mayo Hospital, Lahore, Pakistan.

This study was supported in part by Research Grant No. 11327 entitled, International Center for Medical Research and Training from the Office of International Research, National Institutes of Health of the United States Public Health Service, Department of Health, Education and Welfare. Supported in part by a grant-in-aid from the Parke Davis Company, Detroit.

others at the Mayo, and Sir Ganga Ram Hospitals, Lahore, West Pakistan.

Clinical manifestations typical of meningitis were present in each case and the diagnostic clinical and laboratory criteria previously described were maintained. (McCrumb *et al.* 1951.)

For various reasons, beyond our control, no attempt was made to alternate treatment using other antibiotics as controls. However, less severely ill patients encountered early in their disease were not selected for the chloramphenicol series. The cases reported reflect the total hospital experience for the periods specified. A patient who had received an antibiotic prior to hospitalization was included in the series only if the organism was identified in the blood, spinal fluid or skin lesion. In most instances, only chloramphenicol was given; other antibiotic exceptions are described in the text.

Therapeutic Regimen: The initial dose of chloramphenicol for adults was calculated on the basis of 50 to 75 mgm. per kilo body weight and similar daily doses. Children received 75 to 100 mgm. per kilo as an initial and daily dose. Usually, chloramphenicol succinate was given intravenously initially in order to achieve a prompt high concentration of antibiotic in the blood and meninges. Capsules were given orally when possible and occasionally the powdered antibiotic from the capsule was suspended in saline and administered by gastric tube. The gastric tube was useful also for giving fluids and nutrients which reduced the need for intravenous alimentation. A few children were given Chloromycetin Palmitate by mouth.

Penicillin regimens provided not less than 10 million units per day with comparable doses for children. The intrathecal route was not used.

Therapeutic Results

Summary of Results of 1954 Study (Parker *et al.* 1955).

Data from our initial report are reviewed briefly with the pertinent data presented in Table II.

One of 49 patients with meningoccocal infections treated solely with chloramphenicol died of fulminant meningococcemia and meningitis. Autopsy showed bilateral confluent adrenal hemorrhages and culture of the blood, spinal fluid and adrenal tissues failed to yield *N. intracellularis*. Three deaths in 35 patients with *Hemophilus influenzae* meningitis were in infants aged less than one year in whom specific treatment was instituted on the 8th and 14th days. Three of 17 fatal patients with meningitis due to *Diplococcus pneumoniae* were aged 2, 51 and 65; they were treated initially on the fourth, second and fourth days of disease, respectively. This child died of overwhelming infection, one adult was an alcoholic with delirium tremens, and the oldest patient developed a superimposed hemolytic staphylococcal infection.

Current Results

Since the initial experience in 1954, 43 patients with purulent meningitis have been treated with chloramphenicol alone. Of these, 13 had bacteriologically identified meningococcal meningitis, 19 pneumococcal meningitis and one caused by staphylococci. There were 10 patients (5 in the Pakistan series) with purulent meningitis in whom no bacterial agent was isolated from the blood or spinal fluid; they are classified as undiagnosed. Pertinent clinical and laboratory data were given in Table I.

N. intracellularis Meningitis

As shown in Table I, 13 patients with meningococcal meningitis were success-

Table I. Therapeutic Results in 43 Patients with Purulent Meningitis Treated Solely with Chloramphenicol (Baltimore and Pakistan 1959-65)

Bacterial Type	No.	Av. Day Disease Rx. Started	Treatment Days (Av.)	Duration Fever after Rx.	Diseases	Complications No.	Deaths No.	Deaths Percent
N. intracellularis	13	2.2	10.0	4.3	1	1	0	
D. pneumoniae	19	2.7	14	5.0	10	6*	1	
Hemolytic staphylococcus	1	2	11	3	—	0	0	
Unidentified	10	2.2	10	4	—	3**	2	
Totals	43						3	7%

* 2 relapsed; 2 cranial nerve involvement prior to therapy; 2 associated bacterial endocarditis

** Cranial nerve involvement prior to therapy

Table II. General Summary of Results in 154 Patients with Purulent Meningitis Treated Solely with Chloramphenicol (1950-54; 1959-65)

	1950-54			1959-65			TOTALS		
Bacterial Type	No.	Deaths	%	No.	Deaths	%	No.	Deaths	%
N. intracellularis	49	1	2	13	0	0	62	1	2
D. pneumoniae	17	3	18	19	1**	5	36	4	11
H. influenzae	35	3	9				35	3	9
Miscellaneous +	5	0	0	1	0	0	6	0	0
Unidentified	5	1*	20	10	2***	20	15	3	20
Total	111	8	7	43	3	7	154	11	7

\+ Includes one case each of Salmonella choleraesius, Listeria monocytogenes, hemolytic Staphylococcus, viridans Streptococcus, B hemolytic Streptococcus, and non-hemolytic Streptococcus. All recovered fully.

* Expired within one hour of hospitalization.

** Expired within four hours of hospitalization.

*** Expired within 24 and 35 hours of hospitalization.

Table III. Summary of Results in 38 Patients with Meningitis Treated with Chloramphenicol and Other Antibiotics (Baltimore 1959-65)

Bacterial Type	No.	Mean Day of Disease Treatment Started	Mean Duration Chloramphenicol Treatment (Days)	Mean Duration Fever after Rx (Days)	No. with Associated Diseases	No. with Complications	Deaths	
							No.	Percent
D. pneumoniae	13	1.3	12	8.0	11	2	3	23%
(No Chloramphenicol)*	5	1.8	(14)	3.7	4	1	2	
E. coli	4	2.8	6.0	3.0	3	0	3	
Viridans Streptococcus	1	1	22	11	1	1	0	
H. influenzae	7	2.8	16.4	6.4	3	1	0	
Mixed infection**	3	1.3	18	5.5	3	0	1	
Unidentified	5	3.2	11.2	2.8	4	1	0	
Totals	38						9	24%

* Penicillin and other antibiotics except Chloramphenicol

** 1 case Microaerophilic Streptococcus, Herella

1 case Staphylococcus, Diphtheroids, S. Faecalis

1 case Staphylococcus, Pseudomonas (Fatal Case)

fully treated with chloramphenicol. They made a full recovery. These patients were treated on an average of 2.2 days after the onset of illness. Clinical response was prompt and the temperature reached normal levels within a little over four days after instituting treatment. One patient, a child, developed pyoarthritis of the knee which responded slowly to chloramphenicol and supplemental penicillin. The meningococcal infection abated promptly on chloramphenicol.

H. influenzae Meningitis

In the current series, no additional patients with *H. influenzae* meningitis were treated with chloramphenicol exclusively; seven patients were given chloramphenicol plus other antibiotics, usually streptomycin and a sulfonamide drug. See Table III. All recovered fully; one developed a subdural collection of fluid and recovered after aspiration.

D. pneumoniae Meningitis

The current series included an additional 19 patients with pneumococcal meningitis treated solely with chloramphenicol. See Tables I and II. These patients were treated on an average of the third day of disease and received treatment for about two weeks. Clinical response was prompt and the temperature reached normal levels on an average of five days after instituting treatment.

Death occurred in one patient, aged 37, who was treated on the second day of illness. This patient had an associated pneumonia, uremia, and died within ten hours of hospitalization. One patient, a child,

Table IV. Pertinent Clinical Data in 12 Fatal Cases of Pyogenic Meningitis Treated with Chloramphenicol and Other Antibiotics

Patient	Age	Bacterial Cause	Presence of Coma	Day Disease Rx Started	Day Death	Initial CSF WBC cu mm	Cause of Death	Antibiotic Rx
P.E.	55	D. pneum.	Stupor	2	3	?	Pyoarthrosis Bacteremia Rh. Arthritis Steroid Rx	Tet. CHL.
M.J.	52	D. pneum.	Stupor	3	3	3.0	Died <10 hrs. Adm. Pneumonia Uremia	Pen. CHL. Steroids
E.B.	37	D. pneum.	Yes	2	2	2.8	Died <10 hrs. Hosp.	CHL.
T.H.	28	D. pneum.	Yes	1	1	3.2	Alcoholism Recurrence Osteomyelitis cranium	Pen.
E.P.	59	D. pneum.	Yes	1	1	25.0	Died <4 hrs. Hosp. Recurrence Osteomyelitis cranium	Pen.
K.H.	20	D. pneum.	Yes	3	3	20.0	Died <3 hrs. Hosp.	Pen. CHL.
J.S.	67	E. coli	Stupor	3	9	15.0	Skull Fracture Pneumonia	CHL.
C.D.	83	E. coli	Yes	Late	3	.3	Pneumonia Cerebral Infarction	Pen. Sm. CHL.
S.G.	61	E. coli	Yes	2	3	32.0	Cirrhosis Diarrhea	Sm.
I.T.	72	Staphylococcus P. aeruginosa	Stupor	1	24	1.8	Arteriosclerosis Mastoiditis	Pen. Gan. Sm. Van. CHL.
C.M.	52	Unidentified	Stupor	2	3	1.6	Alcoholism Mastoiditis Osteomyelitis cranium Pneumonia	CHL.
A.T.	61	Unidentified	Yes	3	4	.3	Alcoholism Carcinoma Pharyngeal Abscess	CHL.

responded only partially to chloramphenicol and was given penicillin in supplemental meningeal doses. The causative pneumococcal strain was sensitive to chloramphenicol and to penicillin. This lack of complete response was unique in our experience. The palmitate form of Chloromycetin was given in the early

stages of infection, supplemented by the intramuscular administration of Chloromycetin Succinate. Although we expect that adequate concentrations of chloramphenicol were not achieved in the meninges and cerebrospinal fluid, the point is unproven since antibiotic assays were not performed in those patients treated in Pakistan because of technical limitations.

Thirteen additional patients with pneumococcal meningitis were treated with chloramphenicol, penicillin and other antibiotics. See Table III. These patients were treated on an average during the second day of disease; treatment regimens in cured patients averaged 12 days. Eleven of these patients had associated illnesses, three died, and two developed complications of their meningitis.

Five additional patients were treated with penicillin and antibiotics other than chloramphenicol for about 14 days. Four of these patients had associated illnesses, two died and one developed a complication of meningitis. Table IV shows that three of the fatal cases occurred in 4, 10, and 10 hours after hospitalization. In addition, these patients were either stuporous or in coma with disease involving other organ systems. Two of these fatal cases had experienced meningitis previously.

Miscellaneous Types of Meningitis

A patient with hemolytic staphylococcal meningitis first treated on the second day of disease responded fully to chloramphenicol. The clinical response was rapid and the temperature reached normal levels in about three days. See Table I.

Three of four patients with *E. coli* meningitis died who were treated with chloramphenicol and other antibiotics. As shown in Tables III and IV, the three fatal patients had serious associated disease and were treated initially on about the third day of their illness when one patient was stuporous and two were in coma. Each of these bacterial strains were sensitive to the antibiotics administered when tested by the disc method.

A patient with meningitis caused by *Streptococcus viridans* treated on about the third day of disease recovered after chloramphenicol and other antibiotic treatment.

Mixed Bacterial Meningitis

As shown in Tables III and IV, one of three patients with mixed bacterial meningitis treated with chloramphenicol and other antibiotics died. Each of these patients had serious associated diseases. A man, aged 72, with mastoiditis and severe cerebral vascular disease died. Staphylococci and *Pseudomonas aeruginosa* were isolated from his purulent spinal fluid.

Unclassified Types of Meningitis

Ten patients whose meningitis was not specifically identified were treated solely with chloramphenicol. They were treated on an average of the second day of disease for approximately ten days. The duration of fever after treatment was instituted averaged four days. See Tables I and II. Two of these patients died (20%). Each of these fatal cases had serious associated diseases as shown in Tables I and IV; one was stuporous on hospitalization and one was in coma.

Five additional patients whose meningitis was not identified bacteriologically recovered following treatment with chloramphenicol and other antibiotics. See Table III. The average day that treatment was instituted was 3.2 and defervescence occurred in 2.8 days.

Discussion and Summary

Fatality rates in meningococcal meningitis using either sulfonamides or penicillin are low, not exceeding 5%. (Dingle *et al.* 1941 and Daniels *et al.* 1950). Acute fulminant meningococcal infections account for therapeutic failure in most instances. Strains of *N. intracellularis* resistant to sulfadiazine occasionally occur (Miller *et al.* 1963) and physicians must be aware of this possibility. Mortality in patients with pneumococcal meningitis treated with penicillin varies from 20% to 30% (Swartz *et al.* 1965 and Lepper *et al.* 1951). Recovery of at least 90% of infants and children with *H. influenzae* meningitis is expected. (Swartz *et al.* 1965 and Smith *et al.* 1950).

Our experience with chloramphenicol in these three types of bacterial meningitis compares well; fatality rates from meningococcal, pneumococcal and *H. influenzae* meningitis were 1.5% in 62 patients, 11% in 36 patients, and 8.5% in 35 patients, respectively. See Table II. Recovery in patients with meningitis caused by the three major bacterial agents treated by conventional therapeutic regimens is relatively slow (Swartz *et al.* 1965). Clinical improvement manifested by increased responsiveness occurs on an average of about two, three and three days in meningococcic, pneumococcic and *H. influenzae* meningitis, whereas the temperature returns to normal levels in about three, four and four days respectively. (Swartz *et al.* 1965).

Chloramphenicol-treated patients responded equally well and temperatures abated in four, five and three days in meningococcic, pneumococcic and *H. influenzae* meningitis, respectively. The incidence of initial stupor and coma was comparable to that reported in other series. These results compare favorably with any other series and there is no question regarding the specific curative agent *since no other drugs were used.* Usually, complications of meningitis involving the cranial nerves or joints were manifest at the time of initiating specific treatment.

One patient, a child aged one year, with confirmed pneumococcic meningitis, failed to respond satisfactorily to chloramphenicol treatment. Continuing fever and a positive spinal fluid culture after 12 days forced the supplemental administration of penicillin. Full recovery ensued. This experience was unique in this series, and is presumed to have resulted from inadequate dosage. Deaths in meningitis are a sequel to overwhelming infection and to the excessive, often irreparable, damage prior to the time of instituting adequate antibiotic treatment. In some patients, particularly the aged, there are serious underlying and associated illnesses which determine outcome. The meningitis is another burden rather than the primary difficulty.

Fatality in meningitis caused by several bacterial species simultaneously is high. In the current series, one of three such patients died. All had received multiple antibiotics. In one reported series, 20 of 534 patients had meningitis caused by two or more bacterial types (Herweg *et al.* 1963) involving *H. influenzae, N. intracellularis, D. pneumoniae,* staphylococci, streptococci, and gram negative bacteria. The over-all fatality rate was 35%. In another study of nine cases with mixed meningitis (Carpenter *et al.* 1962) all died. Several antibiotics are required for treatment of patients with meningitis caused by gram negative bacteria such as Klebsiella, *Pseudomonas aeruginosa,* Proteus bacilli, *E. coli,* Salmonellae, and less common types which are serious and carry high fatality rates. (Swartz *et al.* 1965.) Chloramphenicol is effective for many of these types of infection.

Excluding tuberculosis and the viral meningoencephalitides, meningococci and pneumoncocci in adults, and these pathogens plus *H. influenzae* in children, account for about 70% of all cases of meningitis. (Swartz *et al.* 1965.) Thus, chloramphenicol is effective in over two-thirds of the common bacterial causes of meningitis. Like all drugs, it fails when outdistanced by the irreversible tissue damage of bacteria. Prompt effective treatment is mandatory and there is always need for accurate bacteriologic confirmation in meningitis through proper direct examination and culture of the spinal fluid. Ideally, each patient should be appraised individually when all diagnostic facilities are available. Under less ideal circumstances, sound guidelines may be derived from studying a properly stained spinal fluid sediment. Prompt administration of adequate doses of antibiotic will save lives. Even under ideal circumstances, the specific diagnosis is occasionally not made. Chloramphenicol is useful under these obscure circumstances as well as in those specific situations outlined. It is a major therapeutic agent for purulent meningitis and may be the sole drug needed in many types.

Similar findings using ampicillin as the sole antibiotic have been reported by Mathies *et al.* This group treated 192 patients with pyogenic meningitis with results similar to those reported here.

Our data are inadequate to confirm that fatality rates are higher in pneumococcal meningitis when penicillin and chloramphenicol are combined (Swartz *et al.* 1965) in contrast to the results with penicillin alone. As shown in Table III, 3 of 13 patients died who were treated with penicillin and chloramphenicol (23%). This latter rate with two or more chemotherapeutic agents is in excess to the 11% associated with chloramphenicol as the sole antibiotic (Table II). In the group of 20 patients with purulent meningitis, other than pneumococcal types, which were treated with penicillin, chloramphenicol and other drugs in some instances, there were 4 deaths or 20%. See Table III. Three of 21 patients with miscellaneous or unclassified forms died, (14%) who were treated solely with chloramphenicol (data from Table II). Although the trend appears to be significant the data may be misleading because patients were not treated on an alternate basis. The objective was not to compare the results of single vs. multiple drug regimens.

The pertinent question is whether one antibiotic suffices in lieu of combinations. Is there valid evidence for employing multiple antibacterial drugs in purulent meningitis? There are no reliable confirmatory data. In sophisticated medical settings specific confirmation of meningitis is made in approximately 90% of cases (Swartz *et al.* 1965). Specific diagnosis was made in 83% of 180 cases in the Baltimore series, in Lahore 5 of 16 patients were not identified bacteriologically. Prompt and maximal treatment produces excellent results. Many patients contract meningitis in poor socioeconomic settings without the advantage of such refinements, albeit necessary. Under these conditions, multiple drug therapy is awkward as well as expensive. If a single antibiotic is effective for the majority of cases of pyogenic meningitis, therapy is thereby simplified and more economical. Chloramphenicol is reliable in its effectiveness and compares favorably with multiple drug regimens.

Chloramphenicol is not a panacea nor has it solved the serious therapeutic problem of purulent meningitis. It is effective as the sole drug in the three major forms of bacterial meningitis and is therapeu-

tically useful in gram negative infections caused by Salmonellae, *E. coli, P. aeruginosa* Klebsiellae, and Proteus bacilli. (Swartz *et al.* 1965.) Several drugs are often required for treatment of these latter types yet chloramphenicol merits inclusion in such regimens.

Chloramphenicol, in rare instances, elicits serious hematologic reactions, such as aplastic anemia, thrombocytopenia and pancytopenia. (Rosenbach *et al.* 1960 and McCurdy *et al.* 1961.) We have not observed a fatal or irreversible reaction in more than 2,500 patients to whom we have given chloramphenicol for various acute infectious illnesses. It is our practice to use chloramphenicol, and all other antibiotics for that matter, only for specifically diagnosed acute infections and for relatively short periods. The risk of chloramphenicol is rare but real; neither can the threat of adverse reactions from other anti-bacterial drugs be ignored. (Hirsh *et al.* 1958 and Dowling *et al.* 1964.) Few, if any, drugs lack toxic properties. Delay in instituting maximal effective treatment to patients with purulent meningitis is far more dangerous and exceeds the threat of a transient or rare irreversible toxic reaction. No adverse antibiotic reactions were observed in the series.

Conclusions

Chloramphenicol effectively cures patients with menigococcal and pneumococcal meningitis when given as the sole antimicrobial drug sufficiently early in the course of infection. All 13 patients with meningococcal meningitis recovered. One of 19 patients with meningitis caused by *D. penumoniae* died.

Our total experience with chloramphenicol in treating 154 patients with purulent meningitis is: *N. intracellularis* 62 patients, one death (1.5%); *D. pneumoniae* 36 patients, 4 deaths (11%); *H. influenzae* 35 patients, 3 deaths (8.5%); unclassified, 15 patients, 3 deaths (20%) and miscellaneous types, 6 patients, no deaths. This represents an overall fatality rate of 7% in 154 patients.

Therapeutic failure in purulent meningitis appears to be dependent upon delay in instituting treatment before irreversible tissue changes have occurred. Our data suggests that a combination of chloramphenicol with penicillin in pneumococcal meningitis is less effective than when either drug is used alone. The point is not proven.

In the current study no significant resistance to chloramphenicol was observed in the micro-organisms encountered. The practical implications pertaining to the use of a single antibiotic in purulent meningitis are discussed.

Acknowledgement

Grateful appreciation is expressed to House Officers of the Baltimore and Lahore Hospitals for their assistance in treating the patients reported. Dr. Merrill J. Snyder, Miss Audrey Funk and Dr. Z. Hussain rendered technical assistance without which the study would not have been possible. Thanks are expressed to the Chiefs of Service of the Maryland General Hospital, Baltimore, the Lahore General Hospital and the Military Hospital, Rawalpindi, West Pakistan, for treating several patients according to the therapeutic plan. Dr. Nijole and Dr. A. C. Alevizatos graciously assisted in compiling factual data from the hospital records.

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Toxic Epidermal Necrolysis

Report of a Case*

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Toxic Epidermal Necrolysis was first described by Lyell[1] of Scotland in 1956. He reported a case which resembled a scalding of the skin, but in whom the lesions were limited entirely to the epidermis without any systemic symptoms of shock. He coined the term "toxic epidermal necrolysis." It has also been referred to as the "scalded skin syndrome." In most individuals with this condition there is a prodrome of lethargy, malaise, fever, and then an erythematous skin eruption followed by the appearance of bullae. Nikolsky's sign was usually positive.

Report of a Case

A 37 months old Negro male, an only child, was admitted to University Hospital on February 23, 1965, with a complaint of skin eruption and fever. The patient had appeared well until 24 hours prior to admission, when the mother noted a diffuse eruption with fever and desquamation of skin around the ears. The epidermis was found almost immediately to "slide off in sheets." This child had a past history of inability to talk and could not chew solid foods. The child was the product of a 40-week gestation, with a birthweight of 5 lbs. 8½ ounces. Until the time of his admission, he had refused solid foods and was given daily Multivitamins and pureed foods only.

The parents were both living and in good health. The family history was negative.

Physical Examination. This well developed, well nourished child was in no acute distress. Pulse was 90 and regular, respiration 25, temperature 102°. Conjunctivae, ears and throat were not injected. A whitish membrane was present on both tonsils. There was no significant cervical adenopathy. The lungs were clear to percussion and auscultation. The heart rhythm was regular and no murmurs were heard. Abdomen: On palpation, no organomegaly or masses were noted. The skin showed a generalized fine scaling macular eruption.

Nikolsky's sign could be obtained with slight pressure on any part of the skin surface. Exfoliation occurred in sheetlike fashion producing a "scalded" appearance. (See Fig. 1.)

Laboratory Data:

Blood sugar 78	Hemoglobin 13.2 Gm. %
Blood Urea Nitrogen 9 mg. %	Hematocrit 37
Combining power 26	WBC 10,500
Chlorides 103 M.Eq.L.	Polymorphonuclear Neutrophils filamented 49%
Blood Sodium 141 M.Eq.L.	
Blood Potassium 4.9. M.Eq. L.	Monocytes 12%
Serum Albumin 4.3 Gm. %	Eosinophils 4%
Serum Globulin 2.7 Gm. %	Basophils 5%
Sickle cell preparation—negative	Platelets 816,000
Urinalysis—negative	

The following day, blood hematocrit was 36 and sedimentation rate was 15.3. A throat culture had moderate growths of hemolytic staph, coagulase positive; light growth of N. catarrhalis, and also light growth of hemophilus influenza. The hemolytic staphylococci, coagulase positive, was resistant to penicillin and Vancomycin.

Repeat urinalysis was again negative. Chest X-ray was normal. A skin biopsy was obtained with difficulty.

Biopsy Report: Maceration of the upper dermis. Slight thickening of the rete with exocytosis and mildly infiltrated. Section not diagnostic. (See Fig. 2) (Courtesy Dr. L. Harmon).

Clinical Course: The child was given Methicillin,® 100 mg. intramuscularly, every 8 hours for 8 days. A persistent low-grade fever was

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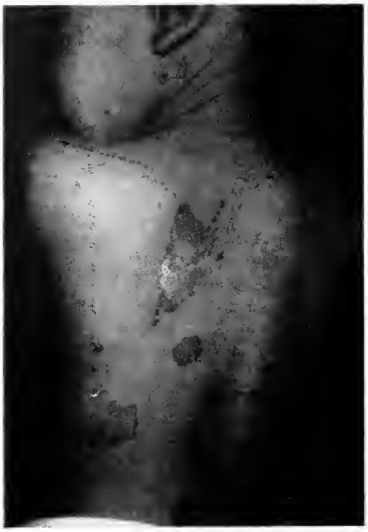

Fig. 1

present during the hospital admission. By the time of discharge, all skin lesions were healed and the throat was clear.

On the day after discharge, the child became febrile and anoretic. He was very irritable and was readmitted to the hospital at 8:25 A.M., with a temperature of 103.2°F (rectal). He was in acute distress, with a pulse rate of 140, respiration 28 per minute. At this time, he had nasal congestion and mucous discharge and congestion of the tonsils with an exudate on the right tonsil. A grade I soft systolic murmur was heard over the precordium, but no radiation was noted with change of position. Healed lesions resulting from the previous episode of toxic necrolysis were present on the arms, legs, anterior and posterior trunk. No pustules were seen. Nikolsky's sign at this time was negative.

Fig. 2

Laboratory Findings on Second Admission:

Urine Culture was negative after 5 days	Polymorphonuclear Neutrophils filamented 83
Hemoglobin 12.2 Gm. per cent	Lymphocytes 13
Hematocrit 36.5	Monocytes 4
Blood Leucocytes 14,400 per cu. mm.	

Throat culture on March 12, 1965 had hemolytic staphlycocci, coagulase positive and a moderate growth of alpha streptococci.

Antistreptolysin titre on March 16, 1965 was less than 55 todd units.

VRDL (Venereal Disease Reagen Level) negative.

On March 24, 1965 Blood hemoglobin was 12.5 mg. per cu. mm.

On March 24, 1965 Blood hematocrit was 38.

A collagen disease was suspected and following tests to rule this out were done:

Sedimentation rate 13

Lupus Erythematosus Prep negative

Blood Leucocytes 8,600

Antistreptolysin less than 50

C-Reactive Protein negative

Physical Examination: On March 15, 1965, chest X-ray showed no evidence of pulmonary disease. The heart was full size. Electrocardiogram showed sinus rhythm with a questionable first degree atrioventricular block. The PR interval was .16 seconds. The rate was 100 per minute. The only significant finding in the clinical course was a change in the cardiac murmur. On March 19, 1965 a grade II (on a scale of IV) systolic murmur was best heard at the apex and did not radiate. There was no thrill. A friction rub was not noted. At this

time the pulse rate was 90 and temperature was 98 (rectal). There was epidermal desquamation of the fingers without erythema. However, the cardiac findings did not point to rheumatic fever.

Clinical Course: On this second admission the patient was given Unipen® 125 mg. intramuscularly every 12 hours. On March 15, 1965 Chloromycetin,® 125 mgs. every four hours was added to the regimen. On March 17, 1965 Unipen® and Chloromycetin® were discontinued. Oxytetraclycine drops, 250 mg. were immediately given, and 250 mg. of the same continued every six hours thereafter and then followed by a reduction. On March 19, 1965 Oxytetraclycline drops were discontinued. The patient was discharged on March 27, 1965.

Discussion

Lyell[1] was the first to describe and to name this disease. Since then, cases occuring in all races have been reported from all over the world. According to Overton[2] more cases have been reported in Africans. The disease may occur at any age. The oldest patient was 85 years old according to Beare[4] and the youngest 2 weeks old, as reported by Walker.[3] The condition begins with malaise, lethargy, and erythema, and sometimes with a mild sore throat, or mucous membrane irritation. The sore throat and mucous membrane soreness may antedate the appearance of the skin lesions by as much as 1 to 2 weeks. Sometimes there may be vomiting or diarrhea. Fever usually begins within 1 to 2 days before the onset of the skin lesions. From the time the skin becomes involved, the disease advances very rapidly. Fever may be very high with increased pulse rate, prostration, irritability, and discomfort. Within 12 hours large flaccid bullae form on various parts of the body, from head to foot. The lesions may also appear in mucous membranes of the mouth and upper respiratory tract including the eyelids. Nikolsky's sign is usually positive and the skin may be rubbed off like steamed wallpaper. As the epidermis peels off, raw, oozing, red, and tender dermal areas appear. Leukocytosis with a shift to the left is generally present. On occasions marked leukopenia has been reported. This is particularly true, where the etiology is attributed to a drug reaction.

When the acute process begins to subside, healing takes place. The time from the onset of the bullae to the healing stage generally takes 10 days to 2 weeks. In most cases scarring does not take place, unless a secondary pyoderma supervenes. Recurrences usually do not occur, although Lyell describes one patient who had 6 recurrent episodes. In our patient, the readmission episode with a high fever occurred but there were no skin lesions on the re-admission.

The condition has a mortality rate of 30%. Death usually occurs in the first week.

Pathology

The histopathology is described in the literature as similar to a second degree burn, with marked vesication in the dermal epidermal junction. There is a necrotic epidermis, and the dermis itself is usually normal. Our biopsy was not too satisfactory due to poor cooperation from the child.

Etiology

Much has been theorized in the literature about the cause of this disease. Some authors state that it represents a form of Stevens-Johnson syndrome, or an idiosyncrasy, a modified Sanarelli-Shwartzman phenomenon, or acute pemphigus.[5,6,7,] The African cases have led to a theory that the ingestion of Snoek, a fish with high Vitamin A content in its liver, may be the cause of this condition.[8,11]

The majority of authors suggest that toxic epidermal necrolysis is a hyper-

sensitivity state, and that the trigger mechanism may be food, drug, or a bacterial metabolite, in which an antibody reaction is produced.

Among the drugs administered to patients who subsequently developed toxic epidermal necrolysis are tetracycline, neomycin,® penicillin, oil of chenopodium, phenylbutazone, phenolphthalein, gold salts, barbiturates, antipyrine, acetazaolamide, opium preparations, sulfonamides, dapsone, antihistamines, polio vaccine, diphtheria inoculation, and tetanus antitoxin. In about 20% of patients there is no drug history at all. The most common drugs are sulfonamides, penicillin, phenylbutazone, phenolphthalein, and antipyrine.[9,12,13,14,15,16,17,18]

There was no history of drug ingestion in this patient. Cutaneous reactions to drugs are well known. However, it is apparent that in a number of cases of toxic epidermal necrolysis reported in the literature, as well as in our case, no history of drug therapy (no drug history) could be obtained. In some of the case studies, upper respiratory tract infection was evident.[19] In our case, there appeared to be a purulent exudative tonsillitis with a number of organisms isolated.

In the differential diagnosis of this disease, Ritter's Disease, otherwise known as Dermatitis Exfoliativa Neonatorum, Stevens-Johnson Syndrome, acute bullous pemphigus, or Bullous pemphigoid, would have to be considered.

Treatment

The treatment of this condition is entirely symptomatic. In severe cases, steroids in large dosage prior to epidermal necrolysis itself may be lifesaving and seem to decrease the severity of the reaction. Rowell and Thompson[5] have reported deaths even where larger dosages of steroids were given, whereas Mandelbaum and Kane[12] have reported survivals of patients without the use of steroids. The patient in this report received no steroids. He was treated with antibiotics, because the only evident basis for the condition was an upper respiratory tract infection. Loss of fluids through large wide areas of denudation necessitated intravenous replacement.

Conclusions

A case of toxic epidermal necrolysis occurring in a three year old male is reported. The condition was apparently associated with an upper respiratory tract infection involving the tonsils.

The child responded to antibiotic therapy.

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Book Reviews

Basic Gastro-Enterology. By J. M. Naish, and A. E. Read, 335 pp. 1965. John Wright & Sons Ltd., Bristol.

In obtaining a medical education one is forced to decide how to spend his reading time most effectively. During the years in medical school it is especially important that these hours be spent efficiently accumulating information.

This concise text on gastro-enterology provides the student with just such an opportunity to acquaint himself with the broad scope of the subject in a relatively limited time.

This book deals with the subject in its entirety. As with most British tests it describes excellently the clinical picture; mention is also made of etiological possibilities, pathophysiological states, diagnostic techniques, and therapeutic possibilities.

It also possesses a good table of contents and is well indexed; and for those who choose additional reading, brief but excellent bibliographies are included.

It is a brief, descriptive work and should be regarded as such; it therefore would provide the greatest amount of information to those individuals seeking to become initially acquainted with the subject matter.

J. W. Eckholdt, M.D.

Gonadotropins: Physiochemical and Immunologic Properties. Ed. by G. E. W. Wollenstenholm and Julie Knight, 125 pp. 1965. Little, Brown and Company, Boston, Mass. $3.50

This is the published report of the deliberations of the Ciba Foundation, Group # 22, which convened on February 5, 1965. The study group consisted of a representative number of distinguished investigators in gonadotropin research. The specified purpose of the study group was to discuss the several aspects of gonadotropic substances.

The historical introduction by Christian Hamberger was especially interesting and reflects his great knowledge and familiarity with the field of gonadotropin research. Each chapter of the symposium consists of discussion of the specific physiochemical and immunologic properties of the several better known gonadotropins. Each presentation was followed by group discussion.

Our current knowledge concerning the isolation, preparation, activity, and immunoassay of gonadotropins is well summarized. The volume has additional value in that many of the still unresolved problems in gonadotropin research are indicated.

Arthur L. Haskins, M.D.

Controversy in Internal Medicine. Ed. by Franz J. Ingelfinger, M.D., Arnold S. Relman, M.D., and Maxwell Finland, M.D., 679 pp. 1966. W. B. Saunders Co., Philadelphia. $14.50

The majority of present publications in the field of medicine deal with the description and treatment of disease processes. The validity of this is unquestioned but it places a burden of responsibility upon the physician who must synthesize this information into usable knowledge as he attempts to deal with the practical problems of diagnosis and treatment. In addition this added knowledge is superimposed upon a foundation acquired during his years of training.

This book deals with controversies in internal medicine; its purpose is not icono-

elastic but rather to focus upon the various debated issues in medicine. The format of the book is such that expert opinions on a particular subject are contrasted and an editorial comment is inserted at the end of each chapter. The topics, numbering 23, vary from "Atherselerosis and diet" to "Who needs drugs for hypertension?"

Particularly interesting are the comments of Goldring and Chasis on antihypertensive therapy. Their skepticism is based upon the paucity of adequately controlled studies in this area. Page, Dustan, and Hollander cite many of the same studies, grant their partial invalidity, and argue to the contrary. This is particularly helpful as one must draw his own conclusions regarding such issues.

The question of the pathogenicity of antibodies and the general topic of autoimmunity is dealt with by two competent investigators: Mackay and Waksman. Mackay's arguments are straightforward and well documented as he affirms the role of autoimmunity in the pathogenesis of disease. Waksman, in a rational discussion, finds that the evidence is less convincing and tends to see the immune response as a secondary reaction to tissue damage. Jandl in his comments summarizes both views and brings forth additional evidence to implicate the antigen-antibody reaction and its pathogenicity.

Regarding the problem of chronic glomerulonephritis both Rammelkamp and Earle agree that it may follow post-streptococcal acute glomerulonephritis. Rammelkamp feels that the incidence is quite low but he is willing to allow its occurrence. Earle, a well-known researcher in this area, expresses the need for the more clearly defined usage of the term "chronic glomerulonephritis," and his plea is appreciated by Relman as he comments on both discussions.

The book is unique inasmuch as it presents controversy. As opinions of the various authors are brought to the surface the reader is forced to actively participate as he judges the worth of each argument. Truly, it is an enjoyable and informative experience.

The book requires basic knowledge of disease processes; it does not provide one with facts or solutions, but rather requires the physician to examine the foundations upon which his knowledge is based. It is a highly recommended text.

A University Is Born. By Margaret Byrnside Ballard, M.D. Union, West Virginia, 1965. Medical Alumni Assn., U. of M., Baltimore, Md. $7.50

"Let us not lightly cast aside things that belong to the past, for only with the past can we weave the fabric of the future." Thus wrote Anatole France, and we present his statement in defense of the value of historical considerations in these utilitarian times.

The author's obstetrical background undoubtedly influenced her selection of the title. She characterizes her work as a short genealogical sketch of the University of Maryland and not a definitive history; and states her threefold purpose as follows:

"First—to show how the small unit of the Medical College of Maryland, through mergers and affiliations, finally, after more than 100 years grew into a true University.

"Second—to bring the early fathers of the institution into present day perspective, to learn to know them, and to acclaim their work.

"Third—to stimulate interest among the present Faculties and Students of the University of Maryland in their heritage."

The first seven chapters depict the "embryology" of the future university. The engaging and detailed story continues to evolve in the final eleven chapters, each covering a decade through 1920; while the epilogue brings the reader down to date with a brief outline of significant events. Nine appendices present facsimilies of the important legal acts which were basic in the evolution of the university; and also descriptions of the various institutions which were combined to form the University of Maryland. There are 215 text pages, and the appendices occupy 80 pages. There is an adequate combined index of subjects and

personal names. There are 31 unnumbered pages of illustrations placed together near the middle of the text. The binding is attractive and the text type is clear.

The author's informal style facilitates easy reading so that the reader becomes absorbed in the narrative. For her fresh viewpoint, and for the literary progeny born of the painstaking travail of extensive personal research, this reader is deeply grateful to the author; and it is his belief that she, a most loyal alumna of the University of Maryland School of Medicine, has performed a real service for her Alma Mater and for the entire university. She has accomplished her "triplet" purpose admirably. The book is warmly recommended to all interested in the University of Maryland.

JOHN E. SAVAGE, M.D.

Ferment in Medicine. *A Study of the Essence of Medical Practice and of its New Dilemmas* by Richard M. Magraw, M.D., with collaboration of Daniel B. Magraw, M.B.A., 272 pp., W. B. Saunders Co., Philadelphia, 1966.

Professor Richard Magraw, former family practitioner, long since a consultant in psychosomatic medicine at the University of Minnesota Hospitals, has written an excellent book. In brief, his book represents the lecture material, background information, seminar topics, and wide range of charts and references which he has found useful in the instruction of senior medical students during their six months in the Comprehensive Clinic at Minnesota. Lest the potential reader fear that the book is simply a pedantic outline, he need fear not. Drawing on a remarkable variety of quotations from physicians, social scientists, philosophers, administrators, and literary greats among others, Dr. Magraw, interspersing his own diversified experience, has forcefully portrayed the social and professional responsibilities of the doctor and several of the major problems for medicine as a force in society.

The first section of the book analyzes the doctor-patient relationship as a social contract, stressing the impact of psychological forces on both members of the contract. The obvious limitations produced in the physician by a disease-oriented viewpoint compared to a patient-oriented viewpoint are well described. The sense of frustration felt by many physicians, now in late-middle age, produced by the relative decrease in importance of the individual doctors in the delivery of care is also emphasized.

For readers with a strong interest in the political role and position of medicine, the latter half of the book will be more exciting. There the author, rather dispassionately, analyzes some of the critical forces which are now and will in the future impact heavily on medicine and medical care. Important topics include doctor-hospital relationships, the research establishment, medical specialization, the growth of the health professions as a whole, third party funding, automation in medicine, and emerging patterns of medical care and practice.

The main theme of this book is, in my view, very critical but frequently overlooked in the academic setting (and, unfortunately, among practitioners as well). Dr. Magraw stresses, with good justification, the need for comprehensive medical care for all patients, rich or poor, urban or rural, medically sophisticated or not. There must be, in his view, some single physician or, less desirably, single system to assure each patient continuity of care emphasizing just those things lost sight of in the typical inpatient-oriented training of the great majority of American physicians. In an era of chronic diseases, more concern, in his view, about prevention, early diagnosis, rehabilitation, and health maintenance will be mandatory.

In summary, Dr. Magraw has written a book on the social place of medicine and medical care which, I hope, large numbers of students, faculty, practitioners, and medical administrators will consider essential reading.

MITCHELL J. ROSENHOLTZ, M.D.

Dean's LETTER

Dear Members of the Alumni, Students and Friends of the Medical School:

After careful study and faculty action as a result of the medical faculty workshop at College Park on June 13th-16th of this year, the Medical School will change its curriculum by a program of integrated teaching in both the basic science and clinical years. This means that teaching will not be done under departmental jurisdiction, but under the direction of a faculty committee using representative teachers from whatever department is deemed capable of conducting the teaching of the specific subject. The program will start in the basic science subjects in the fall of 1966 and hopefully progress to other years as the entering class of 1966 completes each phase of its four years study of medicine.

This method of teaching will provide a better integration and coordination of subject matter with more thorough coverage of principles involved and will prevent needless duplication. The student will be expected to learn as a graduate student and will have more free time to devote to areas of his or her special interest.

Sincerely,

Wm. S. Stone, M.D.
Dean

Curriculum Revision 1966

Through a period from 1952-1954, extensive curriculum changes were introduced in conformity with new concepts of teaching in both the clinical and basic science years, these changes being the result of improvements in departmental staffing and the greater availability of full-time teachers. This curriculum continued in force until 1963, when the faculty assembled for a week-long seminar devoted to medical education held at the Airlie House near Warrenton, Virginia. On this occasion, reviews of teaching methodology and the philosophies of modern medical education were studied in some depth and at the same time compared with existing curricula and techniques. From these deliberations emerged a new and revised concept of an on-going curriculum study by a permanent committee devoting its attentions exclusively to this academic problem. This committee began work in November, 1963. By June of 1966, its deliberations and conclusions had reached a point where a second faculty conference on problems of medical education was deemed advisable.

Accordingly, a second conference on medical education was held at the Center for Adult Education in College Park during the week of June 13, 1966. At this time the curriculum committee unveiled the first fruits of its almost two-year study effort. Preliminary proposals for broad curriculum changes to be introduced gradually were presented. In general, these involved the gradual abandonment of the linear-year-course system with related didactic lectures, reverting the philosophy of medical education to that of a conceptual pyramid composed of segments, each of these being the result of the interaction of numerous disciplines and specialties, each subject relating to a concept of basic knowledge and its clinical application, the student being guided in the acquisition of detail which he would acquire by himself.

Curriculum change for First Year adopted. At a meeting of the faculty on July 7, 1966, the curriculum committee presented in some detail a revised curriculum for the first year. This was adopted and will be instituted with the class of 1970. In its general form, the curriculum is quite simple and is composed of four major divisions.

Anatomy. In this revised concept, cell morphology, ultrastructure, cell function and genetics will be combined with conventional embryology and histology. The total scheduled time for gross anatomy has been reduced by 25%. Students will dissect an infant and only specific areas of an adult cadaver. The routine complete dissection of an adult cadaver has been abandoned. This conjoined curriculum will be closely associated with the second major unit known as the Biophysics, Biochemistry, Physiology, and Pharmacology curriculum (B.B.P.P.).

B.B.P.P. Curriculum. This portion of the course will concern itself with tissue chemistry, cell chemistry, membrane phenomena, biophysical states, various metabolic systems, the physiology of normal organ function and the inter-relationship of organ systems. There will be a basic study of the effect of drugs on cells, tissue and organ function.

Neurological Sciences. Paralleling the work of the curriculum committee, the neurological sciences group composed of representatives of Neurology, Neurosurgery, Neuropathology, Anatomy, Physiology, Pharmacology, Anesthesiology, and Electroencephalography held numerous meetings to develop a neurologic curriculum designed

to create for the student a useful foundation in the basic sciences and a continuing development of conceptual knowledge in the clinical neurologic sciences. The deliberation of the committee resulted in a neurological science curriculum which was actively in effect during the year 1965-1966 and which will be continued with improvements as part of the new adopted revised curriculum called "Neurological Science I" is as follows:

The student is introduced to Neurological Science by way of formal courses in Neuroanatomy and Neurophysiology which have been carefully integrated and which are taught in a parallel fashion with numerous mutual conferences between responsible instructors. To these, some enrichment courses are appended from time to time with plans for clinical presentations in Neurology, Neurosurgery, Neuropharmacology, Anesthesiology, and Neuropathology. There is no content curriculum to these enrichment subjects as they are used to give the student a growing purposeful insight into the relationship of the basic science activity to his ultimate practice of medicine and neurology. The "core" curriculum is reserved for the major field.

Curriculum Study to Continue

Already the curriculum committee has turned its attention to the development of the second year curriculum. The neurologic science group is actively engaged in developing its second stage project to be called "Neuro'ogical Science II." As these innovations develop, they will be presented in these pages.

Future

It is hoped that continuing study and curriculum revision will result in a more closely knit interdepartmental approach to the problems of the medical student enabling him to use the techniques and knowledge of basic science toward the better understanding and more rational scientific approach to the clinical management of human illness.

PROMOTIONS ANNOUNCED

Dr. William S. Stone, dean of the University of Maryland School of Medicine, has announced the promotion of six faculty members. Dr. William J. Adelman, Jr., Dr. Raymond A. Sjodin, and Dr. Matthew Tayback have been promoted to full professor, and Dr. Safuh Attar, Dr. Charles G. Crispens, Jr., and Dr. Richard B. Hornick have been promoted to associate professor.

Dr. Adelman, named professor of physiology, has won international recognition for his basic research on nerve cells. He came to the University of Maryland in 1962 after three years at the National Institutes of Health working in the biophysics laboratory of Dr. Kenneth Cole. He had previously been a faculty member of the University of Buffalo School of Medicine for three years. An alumnus of Fordham University, he earned an M.S. degree at the University of Vermont and a Ph.D. at the University of Rochester.

Dr. Adelman is a member of the Corporation of the Marine Biological Laboratory at Woods Hole, Massachusetts, where he conducts physiological research during the summer months. He has also worked in England in the Physiological Laboratory of the University of Cambridge and at the Marine Biological Association in Plymouth.

Dr. Adelman was recently elected a fellow of the American Association for the Advancement of Science and is a member of the American Physiological Society, the Biophysical Society, Sigma Xi, the Society of General Physiologists, and the Society for Experimental Biology and Medicine.

Dr. Sjodin, named professor of biophysics, joined the then newly established department of biophysics in 1960 and has made many important contributions to its development. He has initiated new courses, helped to plan the graduate program and research activities, and cooperated with faculty members of other departments in teaching neurological science to medical students.

Dr. Sjodin's research programs are concerned with the discovery of basic mechanisms underlying the electrical activity of nerve and muscle cells. This research combines the methods of electrical measurement with radioactive tracer techniques to study ion movements across the cell membrane. He is the author of numerous major scientific papers relating to this work. In addition, he has performed work in collaboration with Dr. Adelman and Dr. Lorin J. Mullins, chairman of the department of biophysics.

Dr. Sjodin earned a B.S. degree at the California Institute of Technology and a Ph.D. degree at the University of California at Berkeley. He did postdoctoral work at Purdue University, and as a fellow of the National Institutes of Health, he studied at the University of London and the University of Uppsala in Sweden. He is a member of the American Physiological Society, the Biophysical Society, and the Society of General Physiologists and is a fellow of the American Association for the Advancement of Science. He has been a participant in international scientific meetings at Buenos Aires, Moscow, Stockholm, and Tokyo.

A member of the Corporation of the Marine Biological Laboratory at Woods Hole, Massachusetts, Dr. Sjodin is conducting physiological research there during the summer months.

Dr. Tayback, named professor of biostatistics, is Deputy Commissioner of Health for the City of Baltimore. He has been with the Baltimore City Health Department since 1949 and was previously a senior statistician for the New York State Health Department. He has been a member of the Maryland medical school faculty since 1952 and also lectures on biostatistics and public health administration at Hopkins.

A graduate of Harvard, Dr. Tayback received an M.A. degree from Columbia and an Sc.D. degree from the Hopkins School of Hygiene and Public Health. He is a fellow of the American Public Health Association. Results of his research, relating to epidemiology, public health administration, program planning and evaluation, and population statistics, have been published in a number of professional journals.

Dr. Attar, named associate professor of thoracic and cardiovascular surgery, is a native of Lebanon. He received his medical degree with honors from the American University in Beirut, where he interned and trained in surgery and was chief resident in 1955. After spending a year as fellow in cardiovascular surgery with Dr. Michael E. DeBakey at Baylor University in Houston, he came to University Hospital in Baltimore to complete his training in thoracic surgery from 1957 to 1959. He is director of the thoracic surgery clinic at the University Hospital, attending thoracic surgeon at Mercy Hospital, and consultant to Mt. Wilson State Hospital.

In addition to his clinical responsibilities, Dr. Attar is engaged in the study of coagulation changes in human shock and in evaluating the use of hyperbaric oxygenation in the treatment of shock. He is the author of more than 65 papers on heart and vascular surgery and related physiology, and has contributed to six books. He is a diplomate of the American Board of Surgery and the American Board of Thoracic Surgery and a member of 17 medical and professional organizations.

Dr. Crispens, named associate professor of anatomy, has made a number of interesting discoveries relating to a virus found in association with cancers in mice.

Winner of the Lederle Medical Faculty Award for 1964, Dr. Crispens teaches medical genetics at the medical school, where he has been a faculty member for the past six years. He came to Maryland after a year as postdoctoral fellow at Jackson Laboratory, Bar Harbor, Maine. He holds a B.S. degree from Pennsylvania State University, an M.S. degree from Ohio State University, and a Ph.D. from Washington State University. Besides publishing many articles dealing wtih his study of cancer in birds and mice, Dr. Crispens is also the

author of a reference book on North American game birds.

Dr. Hornick, named associate professor of medicine, has been director of the division of infectious diseases since July 1963. Long term clinical research with prisoner volunteers at the Maryland House of Correction, conducted under his direction, has resulted in major advances in the control and understanding of several infectious diseases, including typhoid fever and Asian flu.

A native of Johnstown, Pennsylvania, Dr. Hornick received A.B. and M.D. degrees from The Johns Hopkins University. He interned and served a year of residency at The Johns Hopkins Hospital before a two-year assignment at the Walter Reed Medical Unit in Fort Detrick, Maryland. He joined the Maryland Medical School faculty in 1959.

Dr. Hornick is a diplomate of the American Board of Internal Medicine and a member of a number of professional societies including the American College of Physicians, the American Society for Microbiology, the American College of Clinical Pharmacology and Chemotherapy, and the Infectious Disease Society of America. He received the Alexander K. Barton Award from The Johns Hopkins University in 1951 and the University of Maryland Outstanding Teaching Award in 1964.

Faculty NOTES

Department of Anatomy

Dr. Theodore F. Leveque, Professor of Anatomy, recently attended the Fourth International Symposium on Neurosecretion, held in Strasbourg, France, July 25-27, 1966. Attendance at the meeting was by invitation only and included some 150 scientists representing 13 countries. Dr. Leveque, an internationally recognized authority in the field of neurosecretion, was an active participant in the open discussions of the symposium. Sessions were conducted in the newly constructed Institut de Physiologie Générale de la Faculté des Sciences, Université de Strasbourg.

On his sabbatical leave, last year, Dr. Leveque and his family traveled to Strasbourg where he expanded his studies on the glandular periventricular formations in the hypothalamus of the rat and the mouse.

Dr. Gladys E. Wadsworth, Assistant Professor, worked as a research fellow at Highland View Hospital in Cleveland, Ohio, from April 18 to July 18, 1966. Dr. Wadsworth, having broad training in physical therapy and anatomy, participated in the Hand Kinesiology Study that is being conducted in Cleveland by the Ampersand Research Group for Medical Engineering. In the course of her work, Dr. Wadsworth used electromyographic techniques in her studies of muscles that move the fingers and the electrogoniometer—an instrument especially designed for the project—to study angular displacements of interphalangeal and metacarpophalangeal joints during the recording of hand and forearm muscular activity. Dr. Wadsworth plans to apply some of the newer electromyographic techniques in her studies of kinesiology at the University of Maryland.

Department of Medicine

Dr. Jerome K. Merlis, Chief of the Electroencephalographic Laboratory at the School of Medicine, is a consulting editor of the *Journal of Electroencephalography and Clinical Neurophysiology*. The journal, founded in 1947, is the official organ of the International Federation of Societies for Electroencephalography and Clinical Neurophysiology.

Dr. Marie Andersch Retires

Members of the faculty of the School of Medicine, members of the staff of the University Hospital and friends recently honored Dr. Marie Andersch at an informal reception at the University Hospital on the occasion of her retirement. Dr. Andersch was also honored by the Department of Medicine at a formal dinner attended by many members of that department. Dr. Andersch, a member of the faculty of the school for 23 years and Chief of the Biochemistry Section of the Clinical Laboratory, retires with the rank of Associate Professor of Medicine in Biochemistry. She was first appointed in 1943, coming to the University from a position as a Research Associate in the Department of Pathology at the University of Pittsburgh. A native of Illinois, she received her Baccalaureate degree in 1926, from the University of Illinois. For the next four years, she worked in the laboratories of the Michael Reese Hospital in Chicago. In 1933, she received the Doctor of Philosophy degree in Biochemistry at the University of Iowa. For the next year, Dr. Andersch remained at the University as a Research Assistant, leaving in 1934, to accept a position of Associate Professor of Biochemistry of the Women's Medical College in Philadelphia. She accepted the Pittsburgh appointment two years before coming to the University of Maryland.

Dr. Andersch's career at the School of Medicine and the Hospital is marked by a number of achievements. Not only did she continue to maintain a high standard of excellence in the routine chemistry of the University Hospital, but found time to develop new techniques and to publish more than 25 contributions to the medical biochemical literature.

In association with the late Dr. Milton S. Sachs, Dr. Andersch contributed to the development of the Clinical Laboratory and extensively to the curriculum of the Division of Clinical Pathology. She was instrumental in developing plans for a School of Laboratory Science and Technology.

An expert in the field of clinical biochemistry, Dr. Andersch was frequently sought as a consultant by nearly all of the hospitals and institutes in the City of Baltimore and the State of Maryland. Her retirement thus culminates a long career in the service of medicine; a distinguished scientific career in biochemistry coupled with a high sense of devotion; a consistency of excellence and a fine personality.

John Mason Hundley, Jr.

1891 - 1965

John Mason Hundley, Jr. died at his home on December 8, 1965, after a short, acute illness. Known to his friends as "Jack" and to his former residents as "Chief" or more affectionately as "Docus," Dr. Hundley will be remembered for his many accomplishments as Professor and Head of the Department of Gynecology at the University of Maryland School of Medicine and the University Hospital. His many publications reflect his particular interest in the diagnosis and treatment of pelvic malignancy, female urology, and gynecologic pathology.

Born in Baltimore on July 8, 1891, Dr. Hundley received his early education at Boys' Latin School. After receiving his A.B. and M.A. degrees at St. John's College in Annapolis, Maryland, he entered the Johns Hopkins University School of Medicine and was awarded his M.D. degree from that institution in 1916.

His postgraduate training began with internship and assistant residency at the Union Protestant Infirmary, now the Union Memorial Hospital. Further training was interrupted by service in the U. S. Army overseas as a 1st Lieutenant in the Medical Corps from July 5, 1918, to May 16, 1919. He returned to Baltimore in 1919 to continue his residency training at the University Hospital serving as Chief Resident in 1921 under his father, the late Dr. J. Mason Hundley, Sr., then Professor of Gynecology.

In 1930-31 Dr. Hundley studied abroad and brought back to the University the teaching of Professor Robert Meyer of Berlin and Professor Robert Schroeder of the University of Kiel. His interest in pathology, physiology, and the then infant discipline of endocrinology was kindled by his activities in Germany and stimulated the development of clinical research of the physiologic effects of pregnancy on the uterus and the relationship of ovarian hormones to ureteral peristalsis.

In 1935 Dr. Hundley was appointed Professor of Gynecology and Head of the Department at the University of Maryland School of Medicine. In this capacity he enlarged and improved the residency of female urology and established a female urologic clinic as a memorial to his father. He had an avid interest in cancer and with the late Dr. Grant Ward developed a Department of Oncology, pioneering in the establishment of improved methods of radium application in the treatment of pelvic malignancy. He was active in the American Cancer Society and served as President of the Maryland Division in 1941. Under the aegis of this society, he waged a never ending campaign towards the early diagnosis of malignancy, emphasizing the importance of regular, periodic examinations, and the inclusion of an adequate pelvic evaluation as a part of any routine examination.

Dr. Hundley was very proud of his father, also an illustrious gynecologist. In addition to the establishment of the cystoscopic clinic at the University Hospital, he endowed an operating room at the Hospital for the Women of Maryland in honor of his father and in 1961 established the "J. Mason Hundley, M.D., Annual Lecture in Gynecology" at the Medical and Chirurgical Faculty of the State of Maryland.

Dr. Hundley was a member of many organizations including the American Gynecologic Society, the American Association of Obstetricians and Gynecologists, the American Urologic Association, and the American College of Surgeons as well as the Baltimore City Medical Society and the Medical and Chirurgical Faculty of the State of Maryland.

Dr. Hundley loved to entertain and used his home to delight his friends with frequent evenings of delicious food, music, and congeniality. He was a raconteur par ex-

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T. Nelson Carey
1903 - 1966

Thomas Nelson Carey was a clinician who cared for patients and who practiced medicine to the absolute satisfaction of referring physicians. The pace which he followed relentlessly in spite of personal health handicaps was a source of concern and inspiration to his friends. Devotion to the patient's welfare set an example which inspired many students and house officers to perform up to their highest capabilities; they were rewarded through their rich clinical experiences with him. Nelson died on March 11, 1966, after brief hospitalization at the Mercy Hospital.

A native Baltimorean, Nelson was the son of Thomas and Grace Carey, who lived at 422 Kenneth Square in Govans. Born on December 15, 1903, his early childhood was spent in Baltimore; he attended public schools graduating from Loyola High School in 1919. He was awarded a Baccalaureate Degree from Loyola College in 1923 and his Degree in Medicine from the University of Maryland School of Medicine in 1927. While in medical school, Nelson was awarded the Hitchcock and Randolph Winslow Scholarship in recognition of academic achievement which culminated in his selection for the Faculty Gold Medal emblematic of highest class honors. The financial costs of his education were earned in various ways including working as a soda clerk in MacGillivray's Pharmacy where he worked circles around good employees. After graduation Nelson gained the reputation for accuracy and efficiency as an intern and medical resident at the Mercy Hospital. Long, tiring hours were taken in stride and patient workups were thorough. Always a scholar, he terminated his formal postgraduate education in 1930 with a year of fellowship at the Johns Hopkins Hospital working on problems of allergy under Dr. Leslie Gay.

Nelson opened his office for medical practice in 1931 at 1014 St. Paul Street where patients consulted him for 35 years. Quick in decision he had unusual ability as a diagnostician and thrived on difficult clinical problems. Knack for sifting the routine from the difficult and promptly reaching an accurate conclusion spared his patients from long hospitalizations. Surgeons eagerly gave service because of his astute judgment. Frequently, he correctly advised surgical intervention in spite of conflicting x-ray or laboratory evidence which he regarded only as confirmatory aids. Final judgment was predicated on careful analysis of the history and bedside manifestations. Always there was anecdotal phrase circulating the hospital staff highlighting an experience with him in the sickroom. On one occasion when an ill recalcitrant patient, hospitalized for several weeks, complained, "You can't have any more tests to do," Nelson retorted, "Yes, there is one more, your post mortem examination."

Nelson continuously carried a heavy hospital and office practice and in spite of the responsibility and concern which difficult problems provoke, he gave confidence and was constantly sensitive to patient's needs. He delighted in sifting out clinical puzzles for the referring physician, an attribute which was largely responsible for his large consulting practice. Patient service was rendered promptly during weekdays, nights or Sundays and similar standards were expected of those under him. Nelson was constantly seen walking the hospital corridors with stacks of medical records. Reports to doctors were dispatched promptly and were remarkable for their clarity,

brevity, diagnostic accuracy, and wisdom of his therapeutic regimen. Physicians consulted him for personal medical care, a recognized accolade of ability and sincerity Baltimore has had a rich tradition of clinicians such as Hamman, Wilson and Pincoffs. Nelson Carey was a member of this class of men.

Medical students had Nelson Carey as their personal physician for many years. For more than two decades his private medical service was a major teaching unit for house officers. Patient referrals came from physicians throughout Baltimore, Maryland and neighboring states providing a practice which cut across all segments of clinical medicine. This truly teaching service provided a rich experience for interns and residents; those who occasionally shirked duty were sharply rebuked. House officers enjoyed serving him.

Nelson read extensively and kept abreast of pertinent advances in the medical literature. A patient with *Streptobacillus* moniloformis infection was correctly diagnosed by him at the Mercy Hospital after casual conversation with a resident who related the manifestations of fever, arthritis, and rash. His patients were generously made available to associates for clinical study and he personally reported interesting case studies. One of his patients is the first reported instance of Coxsackie Virus myocarditis in an adult. Nelson's knowledge embraced various medical subspecialties, particularly infectious diseases, metabolic, and allergic disorders. With his fundamental knowledge of the natural patterns of disease, he had the additional keen sense of detecting key changes at the bedside. These provided leads for fruitful investigation which he unselfishly shared with full-time colleagues. In this way his personal suggestions led to the use of Flexin in treatment of gout. Nelson had an agile mind which he used well.

The School of Medicine and Hospital are in his perennial debt for dedicated service. Early in his career he carried a heavy teaching schedule and with the exodus of large segments of the faculty in World War II, he taxed himself unsparingly. Daily ward teaching and the conduct of a huge consulting practice served as essential programs for instruction of young physicians. Students packed Gordon Wilson Hall from 1942-46 to hear his presentations at the weekly clinical pathological conference; they referred to him as "T.N.T." From 1948 to 1949, Nelson directed the Department of Medicine in the capacity of Acting Head. His interest in career advancement of medical students and house staff is shown by his many letters endorsing them for positions in other teaching hospitals. These letters described the candidate accurately; they were crisp, honest, and without undue flare.

Friends knew of his sharp wit and his love for quoting the classic literature. He was an avid reader of prose, poetry, and modern satire. Marquand was a special favorite, *La Tosca* and *Rigoletto* his favorite operas, and Mozart his favorite composer. The shore provided necessary respite from routine during part of the summer and in later years Nelson and Mary relaxed in New York or Boston taking in the shows and enjoying other cultural outlets. A trip to Ireland in 1962 gave them special pleasure.

On the evening of January 29, 1963, Nelson's medical associates joined with his loving family to pay homage on the occasion of a testimonial dinner when he received the traditional Maryland chair and plaque appropriately inscribed: *"T. Nelson Carey, M.D., F.A.C.P., with fond appreciation for his many years of devoted service as a talented, tireless clinician and as an inspiring teacher."*

A University teaching hospital can ill-afford to reduce such a brilliant internist from its ranks, a true clinician, reliable friend, capable teacher and one who so effectively related the practice of specialty medicine to a University teaching center. Nelson's loss is more apparent with time; missed because of the example which he set for others, for his high ethical standards and for his dedication to good medicine.

Nelson held membership in the American College of Physicians, the American Medical Association, the Baltimore City Medical Society, the Maryland Medical and Chirurgical Faculty and he was a Diplomate of the American Board of Internal Medicine. In 1966, prior to his death, the Maryland Medical Alumni Association appropriately awarded him its Gold Medal and Honor Award. This is the highest accolade of the Association for outstanding contributions to medicine and distinguished service to mankind.

In 1924, the following was said of Thomas Nelson Carey in a letter supporting his application to the medical school, "He is the type of young man we want in the medical profession at the present day." This prophecy was richly fulfilled.

The staff members of the University and Mercy Hospitals and the Sisters of Mercy tender their sympathy to Mrs. Mary C. Carey and to his children, Mrs. Margaret C. Maher; Mr. Thomas N. Carey, Jr., and Miss Mary Frances Carey who survive him. Throughout his adult life this warm family circle provided him the solace and strength so necessary to support his intense and dedicated way of life. Heartfelt gratitude is expressed to his gracious wife, Mary, by those physicians who were enriched through their pleasant associations with him.

THEODORE E. WOODWARD, M.D.

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cellence and often held his fellow members of the Splint Club entranced by his anecdotes.

In 1955 Dr. Hundley was made Emeritus Professor and in 1958 he retired from practice. He represented an era in the development of the University of Maryland marked by conservatism, scrupulous intellectual honesty, and a dedication to provide the best in patient care.

He is survived by his widow, the former Emily Louise Holt, a brother, and two sisters.

EVERETT S. DIGGS, M.D.

Albert E. Goldstein Memorial Fund Organized

Officers have been recently chosen for the Dr. Albert E. Goldstein Memorial Fund which will honor the many contributions to the medical profession and to the community by the late physician whose death was recently announced.

Offices of the fund, which will have headquarters in Suite 912, Fidelity Building, Baltimore, Maryland, are as follows: President, Louis J. Kolodner, M.D., Vice Presidents: John C. Krantz, Jr., Ph.D., Albert A. Shuger, Leonard A. Siems; Treasurer, Frank Fisher; Secretary and Assistant Treasurer, Moses W. Rosenfeld. Members of the Committee include the following: John Askin, M.D., Louis Bachrach, M.D., Louis Diener, M.D., Robert B. Goldstein, M.D., Milton Kirsh, M.D., Irving R. Lowitz, M.D., Nathan E. Needle, M.D., Marvin S. Plant, H. Melvin Radman, M.D., Martin A. Robbins, M.D., Louis Sachs, M.D., John Sargeant, Herman Seidel, M.D., Milton Sherry, M.D., Abraham Silver, M.D., William H. Triplett, M.D., Sheldon Wengel, and Israel S. Sinberg, M.D.

The committee was formed after many friends of the late Dr. Goldstein spontaneously proposed the establishment of a memorial tribute. They cited his long and distinguished career at Sinai Hospital and Levindale, his leadership of the Medical and Chirurgical Faculty, and his life-long influence upon and contributions to his students and colleagues at the University of Maryland as a mark of the boundless energy and unlimited talents possessed by Dr. Goldstein.

A goal of $50,000 with the aim of initiating programs, lectureships and awards of interest to the young physician.

Contributions to the fund, tax exempt, may be made payable to the Albert E. Goldstein Memorial Fund Incorporated, 912 Fidelity Building, Baltimore, Maryland 21201.

Edgar B. Friedenwald
1879 - 1966

On May 22, 1966, death came to **Edgar B. Friedenwald**, the last surviving member of the famous family and dynasty of Baltimore physicians and scholars which began with his father Dr. Aaron Friedenwald, who graduated from the old Maryland Medical College in 1860 and who was a prominent practitioner and ophthalmologist in Baltimore throughout the last century. Dr. Edgar, as he was often affectionally called, had been in failing health for a number of years. Death came at Mercy Hospital where he had been Chief of the Pediatric Service from 1923 to his retirement in 1950.

Dr. Edgar's father had been active in the Medical and Chirurgical Faculty. In 1890 he delivered a dedicatory address at the old Mercy Hospital in Baltimore at which hospital many of the older Alumni received their training. Seventy-three years later, his son Edgar delivered the dedication address at the opening of the new Mercy Hospital.

Two older brothers of Dr. Edgar, Harry and Julius, were professors of ophthalmology and gastroenterology respectively, in the School of Medicine in the University of Maryland. Another brother, Bernard, practiced dentistry following graduation from the Baltimore College of Dental Surgery. A son, Jonas, died a few years ago; a well known figure in the field of ophthalmology.

At the time of his death, Dr. Edgar had been compiling data on a history of pediatrics in Maryland for future publication as a book. He was also the author of many articles on children's diseases.

Dr. Friedenwald was born in Baltimore on November 20, 1879, at a period when pediatrics was not considered yet a full specialty. His early education began in the

old Scheibe School which was associated with Zion Lutheran Church, graduating from this school and later from the Baltimore City College in the Class of 1899. He was a member of the College of Physicians and Surgeons in the Class of 1903. Following his graduation, he settled in Punxsutawny, Pennsylvania, as a coal-mine surgeon and general practitioner for the local community. His only child, Aaron, now an army officer, was born in Charleston, West Virginia.

After a few years the young pediatrician-to-be decided on postgraduate training and after spending a year at Johns Hopkins Hospital, he sojourned to Berlin for further work and studies with the eminent professors Finkelstein and Huebner. At that period Germany was the mecca for postgraduate training in most specialties and particularly in the field of medicine and pediatrics.

Upon his return to Baltimore in 1911, Dr. Friedenwald began his practice of pediatrics with an office at 1528 Madison Avenue. His teaching career also started at that time and he taught his specialty at Mercy Hospital and at the old Hebrew Hospital (now the Sinai Hospital of Baltimore). His ability was shortly honored by his appointment of Chief of Pediatrics at the Mercy Hospital and later at the Sinai Hospital. At about the same time, he joined the Medical Reserve Corps and during World War I served as a regimental surgeon with the 26th Infantry Regiment first on the Mexican border and later with the 38th Infantry at old Fort Oglethorpe, Georgia. In 1916 he served in France as a major in the Third Infantry Division's 38th Regiment near Chateau Thierry and took a part in the Battle of the Marne. Upon his military discharge at the end of World War I, he returned to the United States and to his practice of medicine. At his funeral on May 24th, full military honors were accorded him at the time of his burial in the Arlington National Cemetery.

In the years 1919 to 1921, he played an important part in the consolidation of the University of Maryland School of Medicine with the old College of Physicians and

To

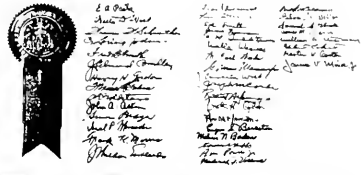
EDGAR B. FRIEDENWALD, M.D.

Professor of Clinical Pediatrics, Emeritus

SCHOOL OF MEDICINE

UNIVERSITY OF MARYLAND

WE, his friends, colleagues and former students hereby honor him, in appreciation of his loyal and faithful service to all children; to Mercy Hospital Pediatrics; and to the medical school. ¶ As a permanent symbol of our esteem and respect, we do hereby and hereunto affix our hand and seal this twelfth day of April in the year nineteen hundred and fifty-three.



Surgeons. Later, through Dr. Friedenwald's leadership the department of pediatrics at Mercy Hospital became one of the leading facilities in the State for the management of illnesses of children. The word pediatrics at the Mercy Hospital was synonymous with the name Dr. Edgar. He rose rapidly in faculty rank and became Professor in the mid 1920's.

Following his retirement he suffered a continued series of cerebral vascular occlusions which forced his retirement from active teaching and practice; however, he kept in touch with the affairs of the medical world and particularly in the field of pediatrics. His presence at meetings was a familiar one and his kindly and friendly smile was always evident. In 1953 he was honored by pediatricians and by his Mercy and University Hospital colleagues at a testimonial dinner. In 1959 he was awarded the Annual Medical Alumni Award and Gold Key for outstanding contributions to medicine and service to mankind. He was an advisor, consultant to the younger men, an able clinician, investigator and administrator. He was indeed an inspiration to his colleagues and many friends throughout the city, State and nation.

SAMUEL S. GLICK, M.D., F.A.A.P.

ALUMNI ASSOCIATION SECTION

President's Letter

Fellow Medical Alumni:

The election to the presidency of the Medical Alumni Association is a very real honor and will, I hope, afford an opportunity to be of service in this area of University activity. The excellent work of my predecessors is a real challenge and the results of the efforts of the many dedicated members of the Association will, I hope, be given further impetus during the coming year. Much progress has been made in recent years assuring the Alumni Association of a rightful place as a constructive force in the affairs of the University as related to past and future graduates of the Medical School.

Interest in the Association has been steadily increasing. The present membership numbers 1988 of a total of 4,100 known living graduates of the Medical School. There are about 400 graduates over 50 years of age whom we are pleased to honor in a very special category. These really impressive figures, among the highest in the country, give some indication of the place of Maryland graduates in the medical world and a suggestion of the capacity for constructive influence in furthering the stature of the University. That the number of active members is not greater is perhaps more a matter of effective communication than apathy and I feel confident that a steadily increasing interest and response will be forthcoming.

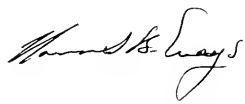
An effective Alumni Association must have the continuing interest and active support of all graduates if the grand tradition of the past and the very certain bright future of the University of Maryland Medical School is to continue. The effective future of the Alumni Association as a beneficial force depends in a significant measure upon the recognition of changes that have taken place within the Medical School, the associated hospitals, and, in fact, of all areas of medical activity throughout the land. New faculty appointments are being continuously made in order that the scope and excellence of teaching may continue. We must show

that they are welcome and that their continuing efforts are appreciated in an atmosphere of mutual interest.

The functions of the Alumni Association have been increasing and among the foremost capacities for service is the development and maintenance of a repository of information relating to every graduate. This cumulative information must be of a degree of completeness and availability as to be immediately available not only for Association purposes but equally for the Medical School, the important graduate Medical and Surgical Associations, the publications of the University and for cooperation with the General Alumni Association.

I believe that the Medical Alumni Association must remain a separate entity. The existence of a General Alumni Association is important to the affairs of the University of Maryland as a whole. We have in the past and I believe we will continue to be cooperative and a supporting factor in the General Alumni Association. However the Medical School has a very old and honorable tradition and must continue to enlarge its sphere. Many graduates have expressed a desire for a separate identity and we proposed to maintain and energetically support this concept of Alumni organization.

Though the numbers of graduates is great and the interest of many in the Association and School has been effectively demonstrated, our affairs, have, in fact, been carried on by a dedicated relatively small number. Geographic distribution must be considered in the interests of an effective Board. However your very enthusiastic support is needed and your suggestions and contributions in the conduct of the affairs of the Association are earnestly solicited.



HOWARD B. MAYS, M.D.
President

Roster of Senior Alumni

Since 1964, Alumni of the University of Maryland, Baltimore Medical College and College of Physicians and Surgeons who have been graduated more than fifty years had been specially and appropriately listed once each year in the pages of the BULLETIN.

With the celebration of the last half century class in 1965, the Alumni of the three schools have now officially merged as they join the senior group.

So long as they shall live the individual Alumni of the three schools shall be listed annually in the BULLETIN so that the identity of these physicians can be properly maintained. In addition, the Medical Alumni Association proposes to list all of the known graduates of the School of Medicine.

The School and the Alumni Association do not propose to forget these honored Alumni subsequent to their receiving their fifty-year diploma. Instead the younger men might well refer to this senior group for advice.

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Silas G. Wright, M.D., '04, UofM
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Olney, Md. 20832

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Class NOTES

Your achievements, fellow alumnus, are of interest to your classmates. They constitute a reward to the faculty, are a challenge to the younger physicians, and are an item of prestige for the University. Please cooperate with us by forwarding news of yourself or any alumnus to the BULLETIN. *Thank you.*

CLASS OF 1911

Dr. G. D. Townshend has moved from his former residence to the Shangrila Apartments, 1301 Ocean Avenue, Santa Monica, California.

CLASS OF 1926

Dr. Bernard J. Cohen has announced the association of Dr. Alan B. Cohen in the practice of internal medicine with offices at the Marylander Apartments, 3501 St. Paul Street, Baltimore, Maryland.

CLASS OF 1927

Dr. E. Eugene Covington was recently appointed Senior Radiotherapist at the Memorial-Sloan Kettering Cancer Center in New York City. Dr. Covington will also join the Faculty of the Medical School of Cornell University.

CLASS OF 1928

Dr. A. A. Silver has announced the association of Dr. Harvey S. Feuerman of the Class of 1962 for the practice of diabetes mellitus and internal medicine. Dr. Silver has offices at 2601 Madison Avenue, Baltimore, Maryland.

CLASS OF 1929

Dr. Jacob H. Conn has been elected North American Vice President in the Section of Clinical Hypnosis of the Pan Ameriean Medical Association.

CLASS OF 1931

Dr. William M. Seabold has announced the opening of his office for the practice of adolescent medicine at 134 West Lanvale Street in Baltimore.

CLASS OF 1933

Dr. Stephen Sewell of 410 Essex Avenue, Spring Lake, N. J., has retired as chief of the gastroenterology section of the Veterans Administration Hospital at Lyons, New Jersey. Dr. Sewell will continue to live in Spring Lake, New Jersey where he was previously engaged in private practice and where he has his permanent home. Dr. Sewell will spend the winters in Florida where he has a home on Majoca Island.

CLASS OF 1936

Dr. Milton H. Stapen, president of the Williamsburgh General and Hampstead General Hospitals in New York, was recently appointed a consultant to the United States Government on "Medicare" for hospital based specialists.

Dr. Stapen also served as a member of New York's Associated Hospital Service "Blue Cross" and is a member of the Long Island Hospital Planning Council. He recently resigned a civil service position as radiologist to the City of New York after more than twelve years of service; however, he remains an active member of the faculty of the Down State Medical School.

Dr. Harry C. Bowie has announced the association of Dr. David R. Will of the Class of 1943 in the practice of general surgery and with offices at 926 St. Paul Street in Baltimore.

CLASS OF 1937

Dr. Samuel Jackson of Valley Stream, Long Island, has been elected president of the medical staff of the South Nassau Communities Hospital. Dr. Jackson took office for a period of two years beginning July 1.

A former secretary and vice-president of the hospital's medical staff, he is also past

president of the Nassau County Academy of General Practice, a member of the Congress of Delegates of the New York State Academy of General Practice and a consultant to the Psychiatric Faculty of the Nassau Academy of Medicine.

CLASS OF 1938

Dr. Samuel Novey has been appointed to the full time staff of the Sheppard and Enoch Pratt Hospital. Dr. Novey will serve as Director of Training. In announcing his appointment, the hospital stated: "Dr. Novey comes to Sheppard Pratt with a background of some twenty-six years in psychiatry. Throughout his professional career he has been actively engaged in teaching. He is a Training and Supervising Analyst in the Baltimore Psychoanalytic Institute and an Associate Professor of Psychiatry at the Johns Hopkins University School of Medicine. Dr. Novey is well known for his many contributions to the scientific literature of psychiatry and psychoanalysis."

Dr. Samuel Louis Fox has announced the opening of his suburban office in the Pikesville Professional Building, 7 Church Lane, with his practice limited to ophthalmology.

CLASS OF 1942

Dr. Luis O. J. Manganiello of 1467 Harper Street, Augusta, Georgia, has been named a member of the State Board of Medical Examiners of the State of Georgia. The appointment was recently made by Gov. Carl E. Sanders. Dr. Manganiello received his training in neurosurgery at the University of Maryland under the late Dr. Charles Bagley and has since been active in the practice of this specialty in Augusta, Georgia. He is the author of numerous scientific contributions in the field of neurosurgery and to basic neurology.

CLASS OF 1943

Dr. Harry Cohen has been promoted to assistant professor in the department of obstetrics of the School of Medicine. Dr. Cohen is also president of the Physician's Club of Baltimore of *Phi Delta Epsilon* Medical Fraternity.

Dr. R. Louis Sapareto has announced the opening of his office for the practice of otolaryngology at 122 Enoza Avenue, Haverhill, Massachusetts.

Dr. David R. Will has announced his association in the practice of general surgery with Dr. Harry C. Bowie with offices at 926 St. Paul Street in Baltimore.

CLASS OF 1945

Dr. Frank J. Ayd, Jr. has organized and begun publication of a new periodical entitled *International Drug Therapy Newsletter*. The *Newsletter*, to be published monthly, is described as a concise, comprehensive coverage of important clinical and research information on psychoactive drugs and other medicine which act on the central nervous system gathered from clinicians, research investigators, hospitals, clinics and the world's medical literature. Dr. Ayd will serve as editor of the *Newsletter*.

Dr. Ayd, recently returned from a two year residence in Italy, is offering the journal at a yearly subscription price of $7.00 with a rate of $4.00 for residents. Publication and subscription offices are located at 912 West Lake avenue, Baltimore, Md.

CLASS OF 1947

Dr. George Winokur has been promoted to Professor of Psychiatry at the Washington University School of Medicine in St. Louis. Dr. Winokur has been a member of the Washington University Faculty since 1951.

CLASS OF 1948

Dr. H. Patterson Mack has joined the Mead Johnson Research Center in Evansville, Indiana, where he will serve as an Associate Director of Clinical Research.

H. Patterson Mack, M.D.

In an announcement released by Dr. Richard T. Arnold, president of the research enter, he said Dr. Mack will concern himelf chiefly with the development of clinical esearch programs for the company.

Before joining Mead Johnson, Dr. Mack erved as senior clinical pharmacologist at he Sterling-Winthrop Research Institute in Rensselaer, New York. Prior to that, from 960 to 1964, he was engaged in research t the Christ Hospital Institute of Medical Research in Cincinnati where he headed the oxicology and pathology section. At this ime, he also served as lecturer in anatomy t the University of Cincinnati. From 1950 o 1960, Dr. Mack was associated with the Jniversity of Maryland following his gradution in the Class of 1948. He served first s an intern at the University Hospital and hen a period of time in the Department f Pathology and Anatomy working under he direction of Dr. Frank H. J. Figge. Dr. Mack received his preliminary education at Rutgers University and Washington Uniersity in St. Louis before coming to the Jniversity of Maryland.

Dr. Roger S. Waterman has announced he removal of his office to 8306 Liberty Road, Baltimore, for the practice of psyhiatry.

CLASS OF 1950

Dr. Wilbert H. McElvain (Colonel), M.C., J. S. A. F., has been recently named Comnander of the 12th U. S. Air Force Hospital t Cam Ranh Bay, Viet Nam. Prior to this ppointment, Dr. McElvain served with Headquarters, Aerospace Medical Division f Brooks Air Force Base, Texas.

Col. Wilbert H. McElvain, M.C., U.S.A.F.

A combat pilot during World War II and a native of Grove City, Pennsylvania, Dr. McElvain is also holder of a Master of Public Health Degree (MPH) in 1960 from the University of California at Berkeley.

CLASS OF 1951

Dr. Leonard M. Lister has announced the removal of his office to Park Towers East, 7111 Park Heights Avenue, Baltimore, Maryland.

CLASS OF 1956

Dr. C. Herschel King, who has until recently held the post of Assistant Professor of Anesthesiology at the Duke University Medical Center, has accepted an appointment on the Staff of the Memorial Hospital, Cumberland, Maryland.

CLASS OF 1959

Dr. John F. Cadden, Jr. of New York City has been appointed assistant director of the medical department of the National Foundation-March of Dimes.

Before accepting his new post, Dr. Cadden was consultant in maternal and child health to the Prince Georges (Maryland) County Health Department. Following his graduation from the School of Medicine, he was intern and then resident in pediatrics at the University Hospital. During 1962-65 he

John F. Cadden, Jr., M.D.

served as resident in public health and preventive medicine at the Johns Hopkins School of Hygiene and Public Health, being awarded the master of public health degree in 1965.

In his assignment with the National Foundation, Dr. Cadden will be active in the administration of medical programs including nearly seventy March of Dimes birth defect treatment centers across the nation.

Dr. August Daniel King, Jr. of 1202 St. Paul Street, Baltimore, Md., has been recently certified by the American Board of Surgery. Dr. King has opened his office for the practice of general surgery at 1202 St. Paul Street and at 204 E. Joppa Road in Towson, Md.

CLASS OF 1960

Dr. Michael J. Fellner of 562 First avenue, New York City, was recently certified as a specialist in dermatology by the American Board of Dermatology at the New York University School of Medicine.

Dr. Morton E. Smith has been recently named Instructor in Ophthalmology in the Department of Ophthalmology of the Washington University School of Medicine in St. Louis. Dr. Smith recently completed a year as Chief Resident and as National Institute of Neurologic Diseases and Blindness Fellow in Ophthalmology, the fellowship being served at the Washington University School of Medicine.

During the calendar year of 1964, Dr. Smith served as Fellow in Ophthalmic Pathology at the Armed Forces Institute of Pathology in Washington, D. C. His present duties include supervision of the Ophthalmic Pathology Laboratory at the Washington University School of Medicine.

CLASS OF 1961

Dr. Robert A. Fink, having completed a residency in neurological surgery at the University of Chicago, has been appointed Fellow in Neurosurgery at the Donner Radiation Laboratory, University of California in Berkeley.

Dr. Larry G. Tilley has announced the opening of his office for the practice of medicine and pediatrics in the Oakleigh Professional Building, 1713 Taylor Avenue Baltimore, Md.

CLASS OF 1962

Dr. Harvey S. Feuerman has announced the opening of his office in association with Dr. A. A. Silver at the Temple Garden Apartment 2601 Madison Avenue, Baltimore, Maryland. Dr. Feuerman will limit his practice to diabetes mellitus and internal medicine.

Dr. Ronald L. Klimes has assumed his duties as the new Medical Director of the Pleasant Acres Home and Hospital. Dr. Klimes succeeds Dr. Margaret E. Crofton who resigned. Dr. Klimes, a native of Baltimore, said he decided to move to York after he served his internship at the York Hospital. He received his undergraduate training at the Johns Hopkins University and his medical degree was obtained at the University of Maryland.

CLASS OF 1963

Dr. Thomas V. Inglesby is currently stationed at the United States Naval Hospital at Bethesda, Md.

Dr. Richard B. Kennan is currently serving as a flight surgeon with the U. S. Navy. Dr. Kennan may be reached at 265 Beech Street, Laurel, South Carolina.